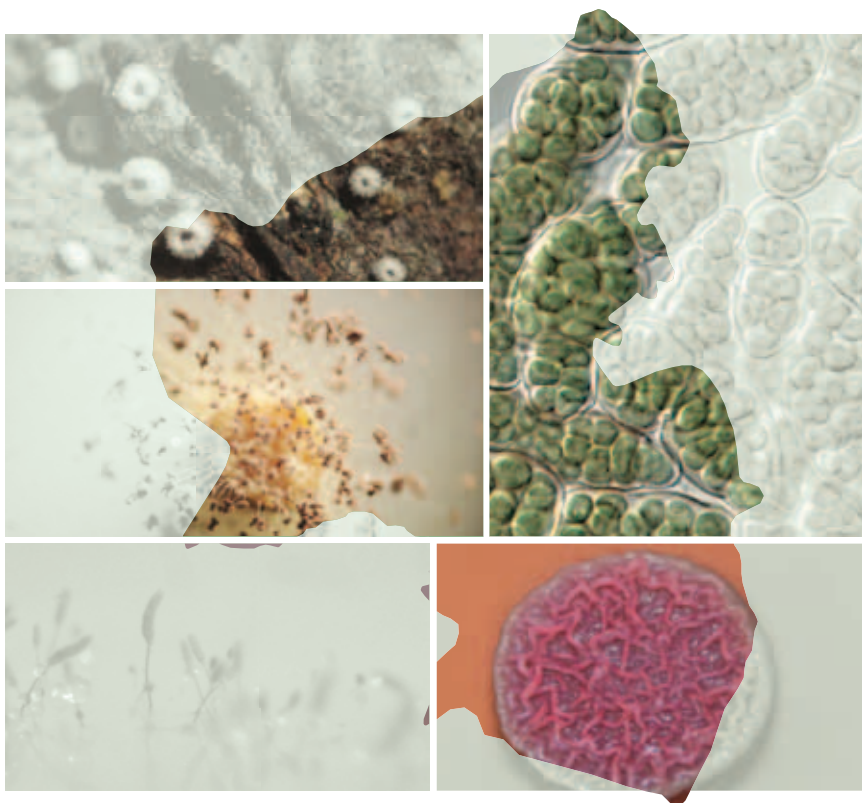


ANNUAL CONFERENCE

of the Association for General
and Applied Microbiology

2019

PROGRAMME



17–20 MARCH 2019 MAINZ | GERMANY





Leibniz Institute
DSMZ-German Collection
of Microorganisms
and Cell Cultures

home of more than 66.500 biological resources

COLLECTION



RESEARCH



SERVICES

- the world's most diverse collection of bioresources
- Europe's first Registered Collection
- public collection, safe deposit, patent deposit
- > 80% of all officially described bacterial species available
- certified collection of plant viruses
- largest collection of leukemia-lymphoma cell lines worldwide
- home of Germany's phage bank

> 40.000 cultures are shipped
to > 80 countries each year

- microbial diversity and underlying evolutionary mechanisms
- improved methods for access and *ex situ* preservation of biodiversity
- molecular mechanisms of biological interactions
- plant virology and plant virus diagnosis
- metabolomics
- functional tumor genomics and molecular biology of lymphoma

> 85 scientists and three
Junior Research Groups

- identification and characterisation of microorganisms, 16S rRNA sequence analysis
- identification and characterisation of human and animal cell lines, free online STR analysis
- BacDive, open access metadatabase on bacterial diversity
- GGDC, web service to calculate genome-to-genome distance
- consultancy e.g. in the area of microbial taxonomy, phylogeny and species description

ISO 9001 certified partner
for reliable results

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ReWi-Building	Philosophicum
RW 1	Foyer A and B
15:00–15:15	
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15:15–16:00	
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16:00–16:45	
VAAM Honorary Award	
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17:15–17:30
Microbe of the Year
p. 26
17:30–19:00
Plenary Session 1
Synthetic Microbiology and Secondary Metabolism
p. 26

from 19:00
Welcome Reception
p. 118

	Opening, Awards, Assemblies, Further
	Plenary Session
	Short lectures
	Mini Symposium, Special Group Meetings
	Lunch Symposium
	Events for Young Scientists
	Poster Session
	Social Programme

PROGRAMME OVERVIEW | MONDAY, 18 MARCH

ReWi-Building	Philosophicum, Foyer B				
RW 1	P7	P10	P11	P13	P15
08:30–10:30	08:30–10:30	08:30–10:30	08:30–10:30	08:30–10:30	
Short Lecture 1 Environmental Microbiology I	Mini Symposium 1 Yeasts	Short Lecture 2 Biotechnology I	Short Lecture 3 Anaerobic Metabolism	Short Lecture 4 Biodegradation	
p. 28	p. 29	p. 30	p. 31	p. 32	
	10:30–11:00				
	Special Group Meeting				
	p. 24				
11:00–12:00					
VAAM PhD Awards					
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12:00–12:45					
Hans-Günter-Schlegel Lecture					
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13:45–14:45					
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					15:00–18:00
					Antragsberatung der Deutschen Forschungsgemeinschaft (DFG)
					p. 38
16:55–17:00					
Special Group Meeting					
p. 24					
17:00–19:00	17:00–18:30	17:00–19:00	17:00–19:00	17:00–19:00	
Mini Symposium 2 Environmental Microbiology	Mini Symposium 3 Cyanobacteria	Mini Symposium 4 Regulation and Signal Transduction in Prokaryotes	Mini Symposium 5 Microbial Cell Biology	Mini Symposium 6 Identification and Systematics	
p. 39	p. 39	p. 40	p. 40	p. 41	
	18:30–19:00	19:00–19:30	19:00–19:30	19:00–19:30	
	Special Group Meeting	Special Group Meeting	Special Group Meeting	Special Group Meeting	
	p. 24	p. 24	p. 24	p. 24	

PROGRAMME OVERVIEW | MONDAY, 18 MARCH

Philosophicum, Foyer A				Philosophicum, Foyer B
P2	P3	P4	P5	1 st Floor
08:30–10:30	08:30–10:30	08:30–10:30	08:30–10:30	
Short Lecture 5 Gene Regulation I	Short Lecture 6 Synthetic Microbiology and Secondary Metabolomics I	Short Lecture 7 Biotic Interactions	Short Lecture 8 Bacterial Cell Biology I	
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12:45–13:45
Lunch Symposium Takara Bio Europe
p. 38

14:45–17:00
Poster Session 1
p. 65

17:00–19:00	17:00–19:00	17:00–19:00	17:00–19:00
Mini Symposium 7 Biotransformation	Mini Symposium 8 Symbiotic Interactions	Mini Symposium 9 Functional Genome Analysis	Mini Symposium 10 Microbial Pathogenicity
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	19:00–19:30	19:00–19:30	19:00–19:30
	Special Group Meeting	Special Group Meeting	Special Group Meeting
	p. 24	p. 24	p. 24

- Opening, Awards, Assemblies, Further
- Plenary Session
- Short lectures
- Mini Symposium, Special Group Meetings
- Lunch Symposium
- Events for Young Scientists
- Poster Session
- Social Programme

PROGRAMME OVERVIEW | TUESDAY, 19 MARCH

ReWi-Building	Philosophicum, Foyer B		
RW 1	P10	P11	P13
08:30–10:30	08:30–10:30	08:30–10:30	08:30–10:30
Short Lecture 9 Environmental Microbiology II	Short Lecture 10 Biotechnology II	Short Lecture 11 Anaerobic Respiration	Mini Symposium 11 Quality Assurance and Diagnostics
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11:00–12:30
Plenary Session 3 Anaerobic Metabolism
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12:45–14:15
Karrieresymposium
p. 52

12:45–13:45
Lunch Symposium FortéBio
p. 38

14:15–15:45
Plenary Session 4 Large Protein Complexes
p. 53

16:00–18:00
Antragsberatung der Deutschen Forschungsgemeinschaft (DFG)
p. 53

18:00–19:30
VAAM General Meeting
p. 22

from 20:00
Mixer (Halle 45 Hauptstraße 17–19 55120 Mainz)
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PROGRAMME OVERVIEW | TUESDAY, 19 MARCH

Philosophicum, Foyer A				Philosophicum, Foyer B
P2	P3	P4	P5	1 st Floor
08:30–10:30	08:30–10:30	08:30–10:30	08:30–10:30	
Short Lecture 12 Gene Regulation/ Microbial Stress Response	Short Lecture 13 Synthetic Microbiology and Secondary Metabolomics II	Short Lecture 14 Environmental Microbiology III/ Chemical Communications	Short Lecture 15 Bacterial Cell Biology II	
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16:00–18:00
Leibniz Research Cluster From microbes to microproduction units
p. 53

15:45–18:00
Poster Session 2
p. 87

from 20:00
Mixer (Halle 45 Hauptstraße 17–19 55120 Mainz)
p. 118

	Opening, Awards, Assemblies, Further
	Plenary Session
	Short lectures
	Mini Symposium, Special Group Meetings
	Lunch Symposium
	Events for Young Scientists
	Poster Session
	Social Programme

PROGRAMME OVERVIEW | WEDNESDAY, 20 MARCH

ReWi-Building	Philosophicum, Foyer B		
RW 1	P10	P11	P13
09:00–11:00	09:00–11:00	09:00–11:00	09:00–11:00
Short Lecture 16 Environmental Microbiology IV	Short Lecture 17 Biotechnology III	Short Lecture 18 Membranes and Transport	Short Lecture 19 Archaea/Fungal Physiology
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11:30–11:45
Poster Awards p. 64
11:45–13:15
Plenary Session 5 Sensing and Signaling in Microorganisms p. 64
13:15–13:30
Closing p. 64

PROGRAMME OVERVIEW | WEDNESDAY, 20 MARCH

Philosophicum, Foyer A			
P2	P3	P4	P5
09:00–11:00	09:00–11:00	09:00–11:00	09:00–11:00
Short Lecture 20 Microbial Stress Response	Short Lecture 21 Sensing and Signaling	Short Lecture 22 Microbial Ecology	Short Lecture 23 Bacterial Cell Biology III/Large Protein Complexes
p. 60	p. 61	p. 62	p. 63

	Opening, Awards, Assemblies, Further
	Plenary Session
	Short lectures
	Mini Symposium, Special Group Meetings
	Lunch Symposium
	Events for Young Scientists
	Poster Session
	Social Programme

ORGANISATION AND IMPRINT

Venue and Date

Johannes Gutenberg University Mainz

Philosophicum

Jakob-Welder-Weg 18 | 55128 Mainz/DE

ReWi-Building (Faculty for Law, Management and Economics)

Jakob-Welder-Weg 9 | 55128 Mainz/DE

17–20 March 2019

Hosting Society

Association for General and Applied Microbiology (VAAM) | www.vaam.de

Conference Chairs

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Technical University Kaiserslautern

Department of Biology | Division of Microbiology

Prof. Dr. Eckhard Thines

Johannes Gutenberg University Mainz

Institute for Molecular Physiology | Department of Microbiology and Wine Research

Prof. Dr. Gottfried Uden

Johannes Gutenberg University Mainz

Institute for Molecular Physiology | Department of Microbiology and Wine Research

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Dr. Katrin Muth
www.vaam.de

WELCOME NOTE OF THE CONFERENCE CHAIRS

Dear colleagues and friends,
Dear members of the
Microbial Community,



© TU Kaiserslautern/
Nicole Frankenberg-Dinkel



© Eckhard Thines



© Gottfried Unden

We are pleased to welcome you to Mainz, the state capital of Rhineland Palatine. Colleagues from the two major universities in the state, Mainz and Kaiserslautern, are organising this 2019 annual conference. This is among the many efforts to intensify the interaction of microbiologists at both locations as we share a strong interest in microbial signaling.

Over three decades ago, the German branch of the ASM held one of its first conferences in Mainz with 311 scientists attending. We hope that the number of attendees this year will exceed that number at least fourfold.

Mainz is located within the heart of Europe and has a long-standing connection to viticulture. It is one out of worldwide ten Great Wine Capitals, which share a key economic and cultural asset: their internationally renowned wine regions. People in Rhineland Palatine are open-minded and outgoing. They also like to enjoy food and drinks, especially the “three W”: Weck” (bread rolls), “Worscht” (sausage) and “Woi” (wine). We hope you will be able to taste it as well during the conference.

With our very best wishes

Nicole Frankenberg-Dinkel, Eckhard Thines and Gottfried Unden

WELCOME NOTE OF THE PRESIDENT OF THE VAAM



Dear Colleagues and Friends,

on behalf of the board of the Association for General and Applied Microbiology (VAAM) I warmly welcome you to the annual meeting, the highlight of each year for our society representing always an excellent opportunity to meet old friends, make new friends and to get inspired by many scientific presentations and discussions.

This year we are very happy to be for the first time in our history in Mainz where the colleagues from the Universities in Mainz and Kaiserslautern have organized a meeting with a highly attractive programme by inviting a variety of well distinguished speakers for the plenary sessions. In addition to the main programme the Special Groups (Fachgruppen) of the VAAM will contribute in organizing mini-symposia with exciting and emerging topics and speakers.

We expect more than 1000 participants in Mainz and I am particularly happy that the meeting attracts so many young people who will be offered the possibility to present their work in short lectures and poster sessions. We decided to skip last year's ePoster sessions since it was not received very well by the community.

All members of the VAAM are particularly invited to join the General Meeting since we have to discuss an increase of the membership fees. After more than 10 years of steady fees, the Board of the VAAM will recommend this to the members to maintain and improve on the long term the public outreach of our society.

I am looking forward to the award ceremonies for the 'VAAM Forschungspreis' and the 'VAAM Promotionspreise', and I am very pleased to announce that Prof. Bärbel Friedrich will become an honorary member of the VAAM during the General Meeting. Prof. Bärbel Friedrich is an internationally renowned and distinguished researcher and has been a long-time ordinary member of the VAAM as well as the vice president in 1985-1989. It is a great honor for the VAAM to have Prof. Bärbel Friedrich as an honorary member.

On behalf of the VAAM, I want to thank in particular the conference chairs Eckhard Thines (Mainz), Gottfried Unden (Mainz) and Nicole Frankenberg-Dinkel (Kaiserslautern), the Scientific Committee, Conventus and Katrin Muth from the VAAM for their great efforts in organizing this annual conference as well as all scientists for their contributions.

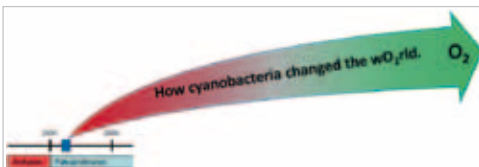
Yours

Ruth A. Schmitz-Streit | President of the VAAM

Department of Biology-Microbiology

Prof. Dr. Nicole Frankenberg-Dinkel: The long-standing interest of my group is the biosynthesis of open-chain tetrapyrrole pigments. They serve in light harvesting in cyanobacterial, cryptophyte and red algal phycobiliproteins, but are also involved in light sensing in the family of phytochrome photoreceptors. Recently, we have been focusing on the assembly of phycobiliproteins and identified genes required for this process also in the genomes of cyanophages. These auxiliary metabolic genes are investigated using classical protein biochemistry. In addition, we are studying heme-containing sensor kinases of signal transduction systems in the methanogenic archaeon *Methanosarcina acetivorans*. Another focus of the group is the opportunistic human pathogen *Pseudomonas aeruginosa* (**Dr. Julia Pielage & Dr. Susanne Zehner**). With regard to our interest in open-chain tetrapyrroles, we study the function of the bacterial phytochrome in this organism. Furthermore, we recently became interested in the molecular mechanism involved in biofilm dispersal initiated by the signaling molecule nitric oxide. Within this project, the degradation of the second messenger c-di-GMP by a specific phosphodiesterase plays an important role.

Dr. Michelle Gehringer: My group gets to investigate the most significant atmospheric change in the Earth's history – the oxygenation of the Early Earth's atmosphere 2,4 Ga during the Great Oxygenation Event (GOE). It is thought that ancient cyanobacteria, the only modern day prokaryotes capable of conducting oxygenic photosynthesis, released sufficient oxygen to alter the redox balance of the planet. Phylogenetic studies as well as geologic investigations suggest that cyanobacteria, and oxygenic photosynthesis, evolved before the GOE, raising questions as to what prevented the earlier oxygenation of the Earth's atmosphere. Our research tries to replicate some of the conditions thought to have prevailed during the late Archean in both fresh and marine environments. By studying the growth responses of modern day descendants of the oldest Cyanobacteria under simulated Archean conditions, we obtain insights into the potential nutrient deficiencies they may have faced, as well as their photosynthetic responses, including oxygen release rates, salt tolerance and the ability to overcome iron toxicity. Studying the early Archean ecosystem is essential for finding out more about the onset of photosynthesis, the process primarily responsible for oxygenating the Earth's atmosphere. This research complements the interdisciplinary DFG funded Priority Programme SPP1833: Habitable Earth whereby researchers from a diverse range of fields are investigating the conditions that lead to the GOE and the establishment of life as we know it today.



Department of Biology – Phytopathology

Prof. Dr. Matthias Hahn: Plant pathogenic fungi cause tremendous losses in all cultivated plants and are serious threats for sustained food production worldwide. Our primary research object is the grey mold fungus *Botrytis cinerea*, a necrotrophic pathogen with an a very wide range of host plants, in particular fruits and vegetables. We have studied regulatory mechanisms that control the infection process, and are focusing on the role of secreted proteins that are used by the fungus to kill the host cells. For this, we have developed improved transformation protocols which allow the generation of multiple mutants and of fluorescently labeled strains which are used to follow the infection process. We are also investigating the genetic diversity of *B. cinerea* and its host-specific relatives by MLST and whole genome sequencing, to identify common and specific virulence factors. In collaboration with industrial partners, we have investigated the spread and the mechanisms of fungicides resistance that develops rapidly in *B. cinerea* field populations under selection pressure.

Another research direction in our lab is followed by group leader **Dr. David Scheuring**, who is focusing on the importance of cellular functions for plant immunity and growth. Most plant immune responses are based on the recognition of conserved microbial signatures (MAMP/PAMP) which in turn often depend on the function of the plant endomembrane system. Therefore, vesicle trafficking with emphasis of vacuolar function in respect to biotic stress is being investigated. Here, a combination of genetic function, pharmacological approaches including plant hormones and cell biology is employed. This three-level approach allows analyzing how specific cellular changes impact on plant immunity and growth regulation.

Department of Chemistry – Biochemistry

Prof. Dr. Antonio Pierik/PD Dr. Daili Netz: All domains of Life contain a multitude of iron-sulfur (FeS) proteins, which are responsible for fundamental processes in the cell. The research focus of the group is identification, characterization and biogenesis of these FeS proteins. We cover the full width from (micro)biology, chemistry to (bio)physics: yeast genetics, molecular biology, bioinformatics, (anaerobic) protein biochemistry, organic synthesis of isotopically labelled substrates and EPR spectroscopy. Together with our colleagues in the group of Prof. Dr. Volker Schünemann (Dept. of Physics) Mössbauer spectroscopy is applied. We uncover hitherto unknown FeS proteins and apply various tools to identify FeS proteins in which amino acids other than cysteine residues are coordinating [2Fe-2S] or [4Fe-4S] clusters. By collaboration with several Microbiology labs (Marburg, Freiburg) we contribute to the understanding of complex FeS and other metalloenzymes of anaerobic microorganisms. Biotechnology is equally important in projects aiming to improve the use of *Saccharomyces cerevisiae* as host for bacterial FeS enzymes in biotechnological applications. Especially the improvement of the complex pathway of FeS cluster insertion in the yeast cytosol is crucial towards this goal. As model enzymes FeS dehydratases of the aconitase and dihydroxyacid dehydratase families are used.



The Institute of Microbiology and Wine Research of the Johannes Gutenberg-University, founded in 1966, is now part of the Institute of Molecular Physiology (imP). It will move in the year 2020 into new buildings (Neubau Biologie II) on the Campus of the University, together with Biochemistry (Institute for Pharmacy and Biochemistry) and the Institute for Biotechnology and Drug Research (IBWF, Institut für Biotechnologie und Wirkstoffforschung).

Prof. Dr. Eckhard Thines: One research focus at the Department of Microbiology and Wine Research addresses the role of microbial secondary metabolites in biotic interactions, e.g. as constituents of chemical communication or toxicity. Techniques such as chemical analytics, next generation sequencing and molecular biology, e.g. the manipulation of fungal species, are applied. By generation of loss-of-function mutants, biosynthetic pathways are studied and the impact of such natural products for virulence and pathogenicity is assessed. For this purpose, studies concerning the molecular basis of plant/pathogen-interactions are carried out in systems such as *Oryza sativa*/*Magnaporthe oryzae*, *Triticum aestivum*/*Zymoseptoria tritici*, *Vitis vinifera*/Esca or apple trees/*Neonectria ditissima*. Furthermore, we are interested in the metabolization of biopolymers by fungal organisms.

Prof. Dr. Ralf Heermann: The research group is interested in the molecular mechanisms of bacterial gene regulation and signal transduction, especially in the regulation of bacterial phenotypic heterogeneity. The model organisms of the research group are entomopathogenic enteric bacteria of the genus *Photorhabdus* and *Xenorhabdus*. A further important research focus of the group is bacterial cell-cell communication and inter-kingdom signaling of entomopathogenic bacteria with their hosts. In nature, bacteria live in close association with other bacteria and eukaryotes. Therefore, they constantly need to monitor and communicate with their neighbors. Finding novel signaling molecules and transferring regulation mechanisms from insect to human pathogens could be used as basis for the development of novel drugs against infection diseases. Furthermore, entomopathogenic bacteria are a promising source of novel secondary metabolites, which could be useful for blocking the communication of other bacteria and therefore the formation of bacterial biofilms. Since biofilms can cause huge economic loss as well as health risks, the research group currently identifies those metabolites for a non-biocidal prevention of freshwater and marine biofilms in the future.

Prof. Dr. Gottfried Unden: The group studies sensing and signaling by Gram-positive and Gram-negative bacteria in response to oxygen and carbon like C4-dicarboxylates under aerobic and anaerobic conditions. Major interest is the understanding of sensing and transmembrane signaling by the mostly membrane-embedded sensors and the physiological response of the bacteria. The interaction of the sensors with respiration and membrane transporters is studied.

Institute for Biotechnology and Drug Research (IBWF)

Dr. Anja Schöffler: At the Institut für Biotechnologie und Wirkstoff-Forschung (IBWF) fungal natural products are one scientific focus. This includes the bioactivity-guided isolation of secondary metabolites and their further characterization but also the isolation of metabolites of selected fungi in order to investigate their ecological function (e.g. of plant pathogenic fungi). In addition to the analysis of the biosynthetic origin, the structural diversity of certain natural products and their occurrence in different fungal species is of interest (chemotaxonomy). Thereby methods such as the development of biological assays, microbiological and molecular biology techniques, phylogenetic analysis, and chemical analytics are applied.

Dr. Stefan Jacob: Stefan Jacob leads the group “Fungal Genetics and Signaling” at the Institute for Biotechnology and Drug research (IBWF) in Kaiserslautern and at the Institute of Molecular Physiology (IMP) at the JGU Mainz. The research activities of the group focus on signaling networks in eukaryotic microorganisms, more exactly the HOG signaling pathway for osmoregulation, a phosphorelay-system, which is suitable for basic research of signaling processes in eukaryotes and furthermore holding suitable fungicide targets. Studies are carried out in the fungal plant pathogen *Magnaporthe oryzae*, for example by molecular manipulation of the fungal genome in order to inactivate genes, manipulate or modify proteins or fluorescence-based visualization of pathway activity. Within this system, the group is also dedicated to do research concerning the molecular basis of biological evolution and longevity. In this context, “rapid adaptation of signaling networks” and “alternative splicing as an element of signal transduction” are priority projects.

Institute of Organismic and Molecular Evolution (IOME)

Prof. Dr. Martin Kaltenpoth: The Department of Evolutionary Ecology studies the evolutionary, chemical and molecular ecology of symbiotic associations between insects and microorganisms by combining entomological and microbiological experiments with molecular techniques, high-throughput next-generation sequencing approaches and chemical analytics. Current research foci are symbiont-provided defenses in beetles and wasps, cuticle-supplementing bacteria across multiple different beetle families, vitamin-provisioning symbionts in bugs, the influence of microbes on cold tolerance in *Drosophila*, and microbial contributions to plant cell wall degradation and detoxification in herbivorous insects. In addition, the group investigates the molecular interplay between hosts and symbionts and the factors that ensure specificity and maintain cooperation in insect-microbe symbioses.

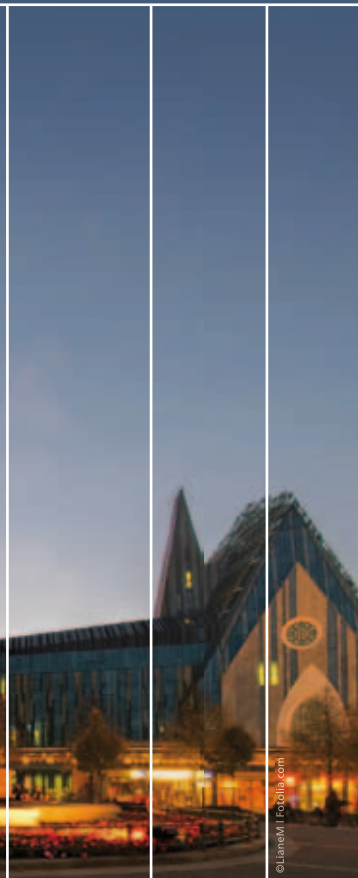
Institute of Pharmacy and Biochemistry

Prof. Dr. Dirk Schneider: For more than two decades, the group has been working on the biogenesis, structure and dynamics of cyanobacterial thylakoid membranes. Besides genetic manipulation of cyanobacterial cells and analyses of the cell physiology and morphology, the work is focussing for the most part on *in vitro* analyses of isolated cyanobacterial proteins. Typically, interaction of (modified) proteins with defined membrane surfaces is analyzed via biophysical methods and the impact on the structure and properties of membranes is analyzed. Furthermore, the group is interested in the folding, stability and structural dynamics of α -helical membrane proteins and the impact of membrane properties on the protein activity.

Jun.-Prof. Dr. Ute Hellmich: We combine biophysical and biochemical studies with cell biology to study essential proteins in the i(r)on homeostasis in the parasite *Trypanosoma brucei*, the causing agent of African Sleeping Sickness. Here, we study the functional dynamics of redox enzymes and ion channels and their interaction with lipids, other proteins and small molecule inhibitors. The role of transporters and ion channels in the context of host/pathogen interactions and primary active drug extrusion in bacteria, are additional research interests.

6th JOINT CONFERENCE DGHM & VAAM

**8–11
March
2020
Leipzig**



72th Annual Meeting

German Society for
Hygiene and Microbiology



Annual Meeting 2020

Association for General and
Applied Microbiology

GENERAL MEETING OF THE VAAM

Einladung zur Mitgliederversammlung der VAAM

Hiermit lade ich alle Mitglieder der VAAM zur Mitgliederversammlung ein. Sie wird am Dienstag, den 19. März 2019, um 18 Uhr in Raum P10 des Philosophicums stattfinden.

Vorläufige Tagesordnung:

1. Festlegung der Tagesordnung und Genehmigung der Niederschrift der Mitgliederversammlung vom 17. April 2018 in Wolfsburg (siehe BIOSpektrum 4/18, Seiten 430/431)
2. Bericht aus dem Vorstand, u.a. Ort und Zeit der nächsten Jahrestagung, Aktivitäten der Fachgruppen, Bestellung eines Kassenprüfers, VBIO, Öffentlichkeitsarbeit, DFG-Fachkollegienwahlen, gemeinsame Tagungen mit der DGHM, Haushalt 2018 und Haushaltsplan 2019
3. Bericht der Kassenprüfer
4. Entlastung des Präsidiums
5. Erhöhung der Mitgliedsbeiträge ab 2020
6. Wahl des Präsidiums (Präsident/Präsidentin, 1. Vizepräsident/1. Vizepräsidentin, 2. Vizepräsident/2. Vizepräsidentin, Schatzmeister/Schatzmeisterin, Schriftführer/Schriftführerin) und drei der sechs Mitglieder des Beirates (geheime Wahl während der Mitgliederversammlung)
7. Änderung der Geschäftsordnung (Mitgliedschaft der VAAM in Dachverbänden), siehe S. 23
8. Mikrobe des Jahres
9. Verschiedenes

im Anschluss: Verleihung einer Ehrenmitgliedschaft

Reisekostenzuschüsse für studentische Mitglieder können bei fristgerecht eingegangenen Anträgen und bei Vorliegen der sonstigen Voraussetzungen nur persönlich ab Dienstag, den 19. März 2019, 14.00 Uhr bis Mittwoch, den 20. März 2019, 13.00 Uhr am Check-in abgeholt werden.

Hubert Bahl
Schriftführer

Änderung der Geschäftsordnung

Alt:

VII. Mitgliedschaft in der FEMS

Die Vereinigung für Allgemeine und Angewandte Mikrobiologie (VAAM) ist Mitglied der Federation of European Microbiology Societies (FEMS). Sie wird in deren Council durch einen Delegierten vertreten. Der Vorstand kann ein Mitglied der Gesellschaft, möglichst ein Vorstandsmitglied, delegieren. Enthält die Tagesordnung einer CouncilSitzung Punkte, die für die VAAM besondere Bedeutung haben, so handelt der Delegierte im Einvernehmen mit dem Präsidium, dessen Meinung er vorher schriftlich oder mündlich einholt.

Neu:

VII. Mitgliedschaft in Dachverbänden

Die Vereinigung für Allgemeine und Angewandte Mikrobiologie (VAAM) kann als Fachgesellschaft nationalen und internationalen Dachverbänden beitreten. Zurzeit ist die VAAM Mitglied des Verbands Biologie, Biowissenschaften und Biomedizin in Deutschland (VBIO) und der Federation of European Microbiology Societies (FEMS). Sie wird in deren Gremien durch eine/einen oder mehrere Delegierte/Delegierten vertreten, der/die vom Vorstand ernannt wird/werden. Enthält die Tagesordnung einer Verbandssitzung Punkte, die für die VAAM besondere Bedeutung haben, so handeln die Delegierten im Einvernehmen mit dem Präsidium, dessen Meinung sie vorher schriftlich oder mündlich einholen.

Die Mitgliederversammlung beschließt auf Vorschlag des Vorstandes den Beginn oder das Ende einer Mitgliedschaft in einem Dachverband mit einfacher Mehrheit.

MEETINGS OF THE VAAM SPECIAL GROUPS | GENERAL MEETINGS

Monday, 18 March

10:30–11:00 Yeasts

P7

16:55–17:00 Environmental Microbiology

RW1

18:30–19:00 Cyanobacteria

P7

19:00–19:30 Regulation and Signal Transduction in Prokaryotes

P10

19:00–19:30 Microbial Cell Biology

P11

19:00–19:30 Identification and Systematics

P13

19:00–19:30 Symbiotic Interactions

P3

19:00–19:30 Functional Genome Analysis

P4

19:00–19:30 Microbial Pathogenicity

P5



Sei Teil der
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COMMUNITY**
und profitiere von einer
**STARKEN
GEMEINSCHAFT**

Bildnachweis ©Anna Schroll (HKI)

Werde Mitglied in der VAAM

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SCIENTIFIC PROGRAMME | SUNDAY, 17 MARCH

15:00–15:15 Opening of the Conference and Welcome Addresses

RW 1

15:15–16:00 Opening Lecture

RW 1

Chairs Nicole Frankenberg-Dinkel (Kaiserslautern/DE)
Eckhard Thines (Kaiserslautern, Mainz/DE)

15:15 A journey from cell polarity to bacterial virulence control (and back)
IL01 Urs Jenal (Basel/CH)

16:00–16:45 VAAM Honorary Award

RW 1

Laudatio Ruth A. Schmitz-Streit (Kiel/DE)

16:45–17:15 Coffee Break (Foyer A and B, Philosophicum)

17:15–17:30 Presentation of the Microbe of the Year

RW 1 Harald Engelhardt (München/DE)

17:30–19:00 Plenary Session 1

RW 1 Synthetic Microbiology and Secondary Metabolism
Chairs Tobias Erb (Marburg/DE), Nicole Frankenberg-Dinkel (Kaiserslautern/DE)

17:30 Repurposing Bacterial Two-Component Systems as Sensors for Synthetic
IL02 Biology Applications
Jeffrey J. Tabor (Houston, TX/US)

18:00 Engineering of non-ribosomal peptide synthetases – Better than nature?
IL03 Helge B. Bode (Frankfurt a. M./DE)

18:30 Metabolic coordination through metabolite-protein interactions
IL04 Hannes Link (Marburg/DE)

19:00–20:00 Welcome Reception (see page 118 for details)

Industrial Exhibition (Foyer A and B, Philosophicum)

Magnetospirillum

Mikrobe des Jahres 2019

www.mikrobe-des-jahres.de



- Ketten aus Eisenoxid-Kristallen bilden eine Kompassnadel
- Damit orientieren sich die Bakterien in Gewässern am Erdmagnetfeld
- Diese Magnetosomen können zusätzliche neue Eigenschaften erhalten
- Dadurch entstehen Anwendungsmöglichkeiten in Medizin und Technik



Vereinigung für
Allgemeine und
Angewandte
Mikrobiologie

SCIENTIFIC PROGRAMME | MONDAY, 18 MARCH

08:30–10:30 Short Lecture 1

- RW 1 Environmental Microbiology I – Microbial Diversity for Water and Health
Chairs Fabian M. Commichau (Göttingen/DE), Harald Huber (Erlangen/DE)
- 08:30 Effect of a diet rich in gluten on the intestinal bacterial microbiota
EMV01 composition of mice
 S. Weis (Villingen-Schwenningen, Gießen/DE)
 D. Grundmann (Zweibrücken/DE), V. F. Zevallos (Mainz/DE)
 S. Lehnerts (Zweibrücken/DE), D. Schuppan (Mainz/DE)
 S. Schnell (Gießen/DE), K.-H. Schäfer (Zweibrücken/DE)
 M. Egert (Villingen-Schwenningen/DE)
- 08:45 Gene-level modeling of *Microcystis* growth and toxin production
EMV02 F. Hellweger (Berlin/DE)
- 09:00 Deep-cultivation, phenomics and genomics of the *phylum Planctomycetes*
EMV03 unveil novel, unsuspected bacterial biology
 S. Wiegand (Nijmegen/NL), M. Jogler, C. Boedeker (Braunschweig/DE)
 D. Pinto (Dresden/DE), J. Vollmers (Karlsruhe/DE)
 E. Rivas-Marín (Sevilla/ES), T. Kohn, S. H. Peeters (Nijmegen/NL), A. Heuer
 P. Rast (Braunschweig/DE), S. Oberbeckmann (Warnemünde/DE), B. Bunk
 O. Jeske (Braunschweig/DE), A. Meyerdierks (Bremen/DE)
 J. E. Storesund (Bergen/NO), N. Kallscheuer, S. Lücker (Nijmegen/NL)
 O. M. Lage (Porto/PT), T. Pohl, B. J. Merkel (Freiberg/DE)
 P. Hornburger (Braunschweig/DE), R.-W. Müller, F. Brümmer (Stuttgart/DE)
 M. Labrenz (Warnemünde/DE), A. M. Spormann (Stanford, CA/US)
 H. Op den Camp (Nijmegen/NL), J. Overmann (Braunschweig/DE)
 R. Amann (Bremen/DE), M. S. M. Jetten (Nijmegen/NL)
 T. Mascher (Dresden/DE), M. Medema (Wageningen/NL)
 D. P. Devos (Sevilla/ES), A.-K. Kaster (Karlsruhe/DE), L. Øvreås (Bergen/NO)
 M. Rohde (Braunschweig/DE), M. Y. Galperin (Bethesda, MD/US)
 C. Jogler (Nijmegen/NL)
- 09:15 Diversity of the cultivated bacteria in lakes on Tibetan Plateau
EMV04 P. Xing (Braunschweig/DE, Nanjing/CN), H. Lu, Q. Wu (Nanjing/CN)
- 09:30 Methane producing *archaea* in Siberian permafrost and their response to
EMV05 long-term thaw
 S. Holm (Potsdam/DE), J. Walz, C. Knoblauch (Hamburg/DE), F. Horn
 D. Wagner, S. Liebner (Potsdam/DE)

SCIENTIFIC PROGRAMME I MONDAY, 18 MARCH

- 09:45
EMV06 *Ascunsovirinae*, a new Microviridae subfamily, infects alphaproteobacteria from terrestrial and marine environments
F. Zucker, V. Bischoff, B. Heyerhoff (Oldenburg/DE)
A. Poehlein (Göttingen/DE), S. Roux (Walnut Creek, CA/US)
F. Enault (Clermont-Ferrand/FR), M. Simon, C. Moraru (Oldenburg/DE)
- 10:00
EMV07 Unravelling microbial communities and their responses towards stormwater events in anthropogenically impacted urban estuarine using meta-omics approaches
F. Wemheuer, K. Dafforn, S. Birrer, P. Steinberg, S. Simpson, J. Potts
P. Scanes (Sydney/AU), S. Kjelleberg (Sydney/AU, Singapore/MY), M. Doblin
G. Birch, P. Gribben, P. Freewater, T. Thomas, E. Johnston (Sydney/AU)
- 10:15
EMV08 Genetic Globetrotter – a novel plasmid-based vector for horizontal gene transfer found in marine *roseobacter* populations world-wide
J. Vollmers (Eggenstein-Leopoldshafen/DE), J. Petersen, V. Ringel
H. Brinkmann, C. Ellebrandt-Sperling, C. Spröer (Braunschweig/DE)
A. M. Howat, J. C. Murrell (Norwich/GB)
A.-K. Kaster (Eggenstein-Leopoldshafen/DE)
- 08:30–10:30 Mini Symposium 1 – Yeasts
- P7
Chair Karl-Dieter Entian (Frankfurt a. M./DE)
- 08:30
YV-FG02 *Saccharomyces cerevisiae* hxt0 strains serve as research and high-throughput ligand screening platform for the human glucose transporters GLUT1-5
S. Schmidl, J. Tripp (Frankfurt a. M./DE), C. V. Iancu (North Chicago, IL/US)
E. Boles (Frankfurt a. M./DE), J.-Y. Choe (North Chicago, IL/US)
M. Oreb (Frankfurt a. M./DE)
- 08:50
YV-FG03 Biotransformation of the pectin degradation product D-galacturonic acid to L-galactonate in *Saccharomyces cerevisiae*
S. Harth (Frankfurt a. M./DE)

SCIENTIFIC PROGRAMME | MONDAY, 18 MARCH

- 09:10
YV-FG04 Integrated stress response associated with loss of tRNA modification in yeast
A. Bruch (Kassel/DE), T. Laguna, F. Butter (Mainz/DE), R. Schaffrath
R. Klassen (Kassel/DE)
- 09:30
YV-FG05 H/KDEL receptors mediate host cell intoxication by a viral A/B toxin in yeast
B. Becker, M. J. Schmitt (Saarbrücken/DE)
- 09:50
YV-FG06 Importance of diphthamide for translational accuracy and competitive cell growth in yeast
H. Hawer, K. Ütkür, L. Adrian, R. Schaffrath (Kassel/DE)
- 10:10
YV-FG07 Role of N1-methyladenosine 25S rRNA base modification in ribosome biogenesis and metabolism
K.-D. Entian (Frankfurt a. M./DE)

08:30–10:30 Short Lecture 2

- P10
Chairs Biotechnology I – Engineering Microbial Metabolism, Enzymes and Products
Heinrich Jung (München/DE), Dirk Tischler (Bochum/DE)
- 08:30
BTV01 One amino acid – two functions – *Phaebacter* inhibens DSM 17395 switches from antibiotic to biomass production if phenylalanine is the only available carbon source
S. Will, D. Schomburg, M. Neumann-Schaal (Braunschweig/DE)
- 08:45
BTV02 *Corynebacterium glutamicum* as platform for the production of hydroxybenzoic acids
N. Kallscheuer, L. Milke, J. Marienhagen (Jülich/DE)
- 09:00
BTV03 Fermentative production of halogenated tryptophan by metabolically engineering *Corynebacterium glutamicum*
K. H. Veldmann, H. Minges, N. Sewald (Bielefeld/DE), J.-H. Lee (Busan/DE)
V. F. Wendisch (Bielefeld/DE)
- 09:15
BTV04 *Gluconobacter japonicus*: a promising platform for the large-scale production of levan-based fructans
M. Hövels, J. Kniewel, U. Deppenmeier (Bonn/DE)
- 09:30
BTV05 Temperature-dependent dynamic control of the TCA cycle for increased volumetric productivity of itaconic acid production by *Escherichia coli*
B.-J. Harder, K. Bettenbrock, S. Klamt (Magdeburg/DE)

SCIENTIFIC PROGRAMME I MONDAY, 18 MARCH

09:45 Heterotrophic and autotrophic production of acetoin in *Cupriavidus necator*
BTV06 C. Windhorst, J. Gescher (Karlsruhe/DE)

10:00 The many Roads to Rome: How to overcome limitations for the production
BTV07 of chiral β -amino acids via microbial ω -transaminases (ω -TA)
J. Rudat, O. Buß (Karlsruhe/DE)

10:15 LinD-catalyzed dehydration of short-chain alkenols
BTV08 M.-P. Fischer (Stuttgart/DE)

08:30–10:30 Short Lecture 3

P11 Anaerobic Metabolism
Chairs Mirko Basen (Frankfurt a. M./DE), Julia Fritz-Steuber (Stuttgart/DE)

08:30 On the thermodynamics of electroactive microorganisms – Revealing the
AMV01 microbial electrochemical Peltier heat
B. Korth, T. Maskow, F. Harnisch (Leipzig/DE)

08:45 Limonene dehydrogenase hydroxylates the allylic methyl group of cyclic
AMV02 monoterpenes in the anaerobic terpene degradation by *Castellaniella*
defragrans
E. Puentes-Cala, M. Liebeke (Bremen/DE), S. Markert (Greifswald/DE)
J. Harder (Bremen/DE)

09:00 Aldehyde: ferredoxin oxidoreductase (AOR) – kinetics, abilities and
AMV03 maturation
F. Arndt, G. Schmitt (Marburg/DE), A. Winiarska, M. Szaleniec (Cracow/PL)
J. Heider (Marburg/DE)

09:15 Degradation of methoxylated aromatic compounds by a methanogenic
AMV04 Archaeon – Unravelling central metabolism of *Methermicoccus shengliensis*
J. Kurth, M. S. M. Jetten, C. Welte (Nijmegen/NL)

09:30 Perturbations of the microbiota support *Salmonella* growth through release
AMV05 of amino acids
M. Winter, L. Spiga, E. Hughes, S. Taylor, W. Zhu, S. Winter (Dallas, TX/US)

09:45 Genomic insight into the co-dependent hydrogenogenesis in the facultative
AMV06 anaerobe *Parageobacillus thermoglucosidasius*
H. Aliyu, T. Mohr (Karlsruhe/DE), D. Cowan (Pretoria/ZA)
P. De Maayer (Johannesburg/ZA), A. Neumann (Karlsruhe/DE)

SCIENTIFIC PROGRAMME I MONDAY, 18 MARCH

10:00 Anaerobic steroid catabolism: a treasure trove of unprecedented enzyme
AMV07 reactions
C. Jacoby, M. Boll (Freiburg i. Br./DE)

10:15 Turning a Methanogen into an Acetogen
AMV08 M. Rother (Dresden/DE), A. Poehlein (Göttingen/DE)
C. Schöne (Dresden/DE)

08:30–10:30 Short Lecture 4

P13 Biodegradation
Chairs Dieter Jendrossek (Stuttgart/DE), Christian Jogler (Nijmegen/NL)

08:30 Similarities and Peculiarities between Bacterial Degradation of Indole and
BDV01 Indole-3-acetic acid
M. Sadauskas, J. Vaitekūnas, R. Gasparavičiūtė, R. Meškys (Vilnius/LT)

08:45 *beta beware*: Enantiomer discrimination in β -phenylalanine degradation
BDV02 by a newly isolated *Paraburkholderia* strain BS115 and type strain PsJN
J. Rudat, O. Buß (Karlsruhe/DE)

09:00 Different roles for 7 α -hydroxysteroid dehydratases in bacterial
BDV03 degradation of bile salts
F. M. Feller, O. Yücel (Münster/DE), J. Holert (Vancouver/CA)
B. Philipp (Münster/DE)

09:15 N5-functionalized flavin cofactors may facilitate versatile redox chemistry
BDV04 A. Matthews, R. Saleem Batcha, R. Teufel (Freiburg i. Br./DE)

09:30 Stereochemical Insights into the Anaerobic Degradation of
BDV05 4-Isopropylbenzoyl-CoA in Denitrifying Bacterium Strain pCyN1
P. Becker, J. Küppers, R. Jarling, M. Dörries, N. Cakic, M. Schmidtman
J. Christoffers, R. Rabus, H. Wilkes (Oldenburg/DE)

09:45 Manganese oxidizing bacteria degrade cylindrospermopsin
BDV06 E. B. Martinez Ruiz, M. Cooper, J. Fastner, U. Szewzyk (Berlin/DE)

10:00 Bioremediation of inorganic mercury using *Exiguobacterium indicium* (MW1)
BDV07 isolated from the marine environment of Odisha coast
S. Satapathy (Bhubaneswar/IN)

10:15 Preventing deterioration of cultural heritage by fungal decay of paper-based
BDV08 documents via application of ionic liquids with anti-fungal properties in
paper restoration
K. Schmitz, Se. Wagner (Freising/DE), C. Maier (Aschau/DE)
J. P. Benz (Freising, Aschau/DE)

08:30–10:30 Short Lecture 5

P2 Gene Regulation I – Protein-mediated Gene Regulation
Chairs Boris Görke (Vienna/AT), Anke Treuner-Lange (Marburg/DE)

08:30 Molecular characterization of an adaptor protein for a major
GRV01 endoribonuclease in *Escherichia coli*
S. Durica-Mitic, B. Görke (Vienna/AT)

08:45 Small proteins in *Sinorhizobium fredii* NGR234 – The next puzzle piece to its
GRV02 broad host range?
H. Duin, K. Petersen (Hamburg/DE), S. Güllert, N. Jacky (Kiel/DE)
W. R. Streit (Hamburg/DE)

09:00 Redefining the promoter architecture of the capsular biosynthesis gene
GRV03 cluster in *Staphylococcus aureus*
D. Keinhörster, A. Salzer, A. Duque-Jaramillo, S. E. George, C. Weidenmaier
C. Wolz (Tübingen/DE)

09:15 HrrSA Orchestrates a Systemic Response to Heme and Determines
GRV04 Prioritization of Terminal Cytochrome Oxidase Expression
M. Keppel, C. Davoudi, A. Filipchuk, U. Viets, E. Pfeifer, T. Polen
M. Baumgart, M. Bott, J. Frunzke (Jülich/DE)

09:30 1 billion years of RpaB evolution
GRV05 M. Riediger, J. Peisert, W. R. Hess (Freiburg i. Br./DE)

09:45 Impact of the two-component regulatory system 09 on oxidative stress
GRV06 resistance of *Streptococcus pneumoniae*
S. Hirschmann, A. Gómez-Mejía, U. Mäder (Greifswald/DE)
D. Driesch (Jena/DE), J. Karsunke (Greifswald/DE)
S. Häußler (Braunschweig/DE), S. Hammerschmidt (Greifswald/DE)

10:00 Regulation of Heterologous Subtilin Expression in *Bacillus subtilis* W168
GRV07 Q. Zhang (Dresden/DE), C. Kobras, S. Gebhard (München/DE, Bath/GB)
T. Mascher, D. Wolf (Dresden/DE)

10:15 The distinctive regulation of cyanobacterial glutamine synthetase
GRV08 S. Klähn (Leipzig/DE)

SCIENTIFIC PROGRAMME | MONDAY, 18 MARCH

08:30–10:30 Short Lecture 6

- P3 Synthetic Microbiology and Secondary Metabolomics I – Synthetic Biology and Secondary Metabolite Biosynthesis
Chairs Markus Nett (Dortmund/DE), Bastian Molitor (Tübingen/DE)
- 08:30 Design and characterization of synthetic ECF- σ /nti- σ threshold gate genetic circuit in *Escherichia coli*
SMV01 S. Vecchione, A. Diehl, Ge. Fritz (Marburg/DE)
- 08:45 New gene regulatory tools to improve synthetic biology in *Synechocystis* sp. PCC 6803
SMV02 A. Behle (Düsseldorf/DE)
- 09:00 Synthetic pathway for carbon fixation in *Synechocystis* sp. PCC 6803
SMV03 E.-M. Brouwer, S. Song, M. Hagemann (Rostock/DE)
- 09:15 An α -pheromone-based Yeast Communication Tool Kit (YCTK) for the implementation of multicellular communication networks in *Saccharomyces cerevisiae*
SMV04 N. Krink, A. Anders, V. Sourjik (Marburg/DE)
- 09:30 Cyclic triterpenoid production with tailored *Saccharomyces cerevisiae*: challenges and limitations
SMV05 B. E. Ebert, K. Walter, E. Czarnotta (Aachen/DE), J. Maury
S. A. Jacobsen (Lyngby/DK), A. Lewandowski (Berlin/DE)
Ha. Guo (Aachen/DE), T. Polakowski (Berlin/DE), J. Förster (Lyngby/DK)
C. Lang (Berlin/DE), L. M. Blank (Aachen/DE)
- 09:45 Bacterial varieties of terpenoid building blocks
SMV06 M. Kschowak, L. Drummond, H. Wortmann (Frankfurt a. M./DE)
J. S. Dickschat (Bonn/DE), J. Schrader, M. Buchhaupt (Frankfurt a. M./DE)
- 10:00 Biosynthetic design of nonribosomal peptides
SMV07 H. Kries (Jena/DE)
- 10:15 Cell free production of polyketide building blocks
SMV08 S. Hoefgen (Jena/DE), C. Graf (Dresden/DE), J. E. Kufs
J. Rautschek (Jena/DE), J. Thiele (Dresden/DE), V. Valiante (Jena/DE)

08:30–10:30 Short Lecture 7

- P4
Chairs Biotic Interactions
Anja Schöffler (Kaiserslautern/DE), Pierre Stallforth (Jena/DE)
- 08:30
BIV01 Mycelia Enable Bacterial Activity in Dry and Oligotrophic Environments
A. Worrich, H. Stryhanyuk, N. Musat, S. König, T. Banitz, F. Centler, K. Frank
M. Thullner, H. Harms, H.-H. Richnow, A. Miltner, M. Kästner
L. Y. Wick (Leipzig/DE)
- 08:45
BIV02 Interkingdom communication in the metaorganism *Aurelia aurita*
N. Weiland-Bräuer, M. A. Fischer, N. Pinnow, R. A. Schmitz-Streit (Kiel/DE)
- 09:00
BIV03 Multiple bodyguards or a single strong one? – Coexistence of defensive
symbiont strains in a beetle
L. Flórez, J. Wierz (Mainz/DE), I. J. Miller, J. C. Kwan (Madison, WI/US)
K. Scherlach, C. Hertweck (Jena/DE), M. Kaltenpoth (Mainz/DE)
- 09:15
BIV04 Gut microbiota protect *Dysdercus fasciatus* firebug against a co-transmitted
trypanosomatid parasite infection
T. Onchuru (Mainz/DE), H. Salem (Atlanta, GA/US), E. Bauer, A. Martinez
M. Kaltenpoth (Mainz/DE)
- 09:30
BIV05 Biochemical and molecular insights into use of PGPR *Pseudomonas* and
Bacillus strains for suppressing plant disease as formulated biofertilizers
M. Zubair (Nanjing/CN, Faisalabad/PK), S. Yasmin (Faisalabad/PK)
X. Gao (Nanjing/CN)
- 09:45
BIV06 The different morphologies of yeast and filamentous fungi trigger distinct
killing and feeding mechanisms in a fungivorous amoeba
S. Radosa, I. Ferling, J. Sprague, F. Hillmann (Jena/DE)
- 10:00
BIV07 Bacteriolytic properties of a predatory soil bacterium
K. Arend, T. Bentler, C. Lücktefeld, C. Kaimer (Bochum/DE)
- 10:15
BIV08 Biological role and host resources enable a minimal fermentative
metabolism in a pectinolytic symbiont
E. Bauer, M. Kaltenpoth (Mainz/DE), H. Salem (Atlanta, GA/US; Berlin/DE)

SCIENTIFIC PROGRAMME | MONDAY, 18 MARCH

08:30–10:30 Short Lecture 8

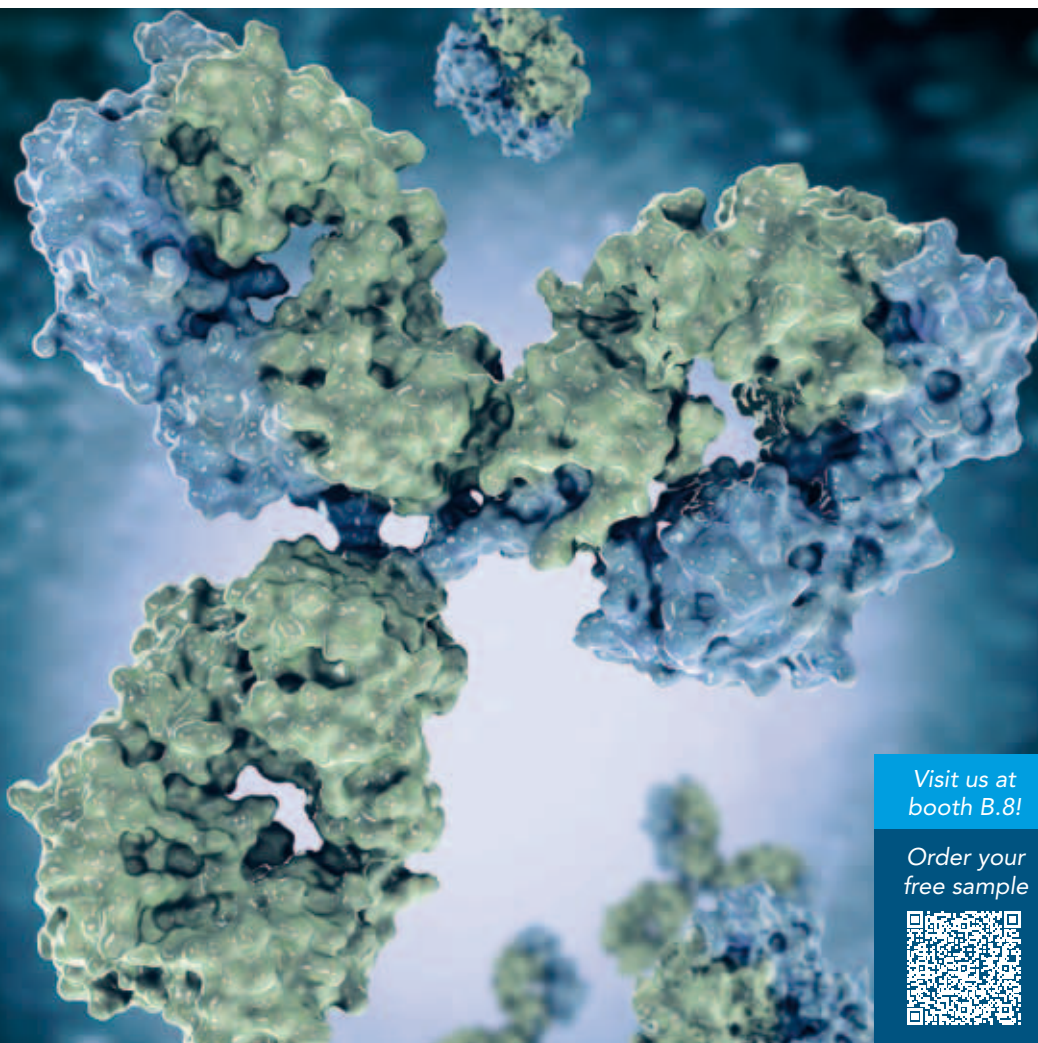
- P5
Chairs Bacterial Cell Biology I – Inside the Cell
Kai Papenfort (München/DE), Tessa Quax (Freiburg i. Br./DE)
- 08:30
BCV01 Diversity, Structure, Function, Assembly and Engineering of Bacterial
Microcompartments
C. Kerfeld (East Lansing, MI/US)
- 08:45
BCV02 Biogenesis of a prokaryotic organelle – a nightmare before xMas
R. Uebe (Bayreuth/DE)
- 09:00
BCV03 Living in the shade – How cyanobacteria use far-red light
D. Nürnberg (Berlin/DE, London/GB), L. Antonaru (London/GB)
J. Morton (Canberra/AU), S. Santabarbara (Milano/IT)
E. Krausz (Canberra/AU), A. Boussac (Gif-sur-Yvette/FR), A. Fantuzzi
A. W. Rutherford (London/GB)
- 09:15
BCV04 Awakening of *Synechocystis* sp. PCC 6803 from nitrogen starvation requires
rapid glycogen mobilization and ATP production.
S. Doello, K. Forchhammer (Tübingen/DE)
- 09:30
BCV05 A new cell cycle regulator in *Hyphomonas neptunium*
C. Reif, O. Leicht, M. Thanbichler (Marburg/DE)
- 09:45
BCV06 Exception to the Rule – Naturally Occurring *Vibrio cholerae* Strains with a
Single Chromosome
M. Bruhn, D. Schindler, F. Kemter, M. Wiley, K. Chase, G. Koroleva
G. Palacios, S. Sozhamannan, T. Waldminghaus (Marburg/DE)
- 10:00
BCV07 Formation of Acidocalcisomes (ACs) and Polyphosphate (PolyP) in
Agrobacterium tumefaciens
C. Frank, D. Jendrossek (Stuttgart/DE)
- 10:15
BCV08 DNA topology in *Synechocystis* sp. PCC6803
M. Dietsch (Düsseldorf/DE)

11:00–12:00 VAAM PhD Awards

- RW 1
Laudatio Wolfgang Buckel (Marburg/DE)

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12:00–12:45 Hans-Günter-Schlegel Lecture

RW 1

Chair Eckhard Thines (Kaiserslautern, Mainz/DE)

IL05 How a fungus manages to colonize a plant and cause a disease – What have we learned from a model system?
Regine Kahmann (Marburg/DE)

12:45–13:45 Lunch Break

12:45–13:45 Lunch Symposium – Takara Bio Europe

P3 Innovative Technologies to Accelerate Cloning & Protein Purification Workflows – Discover In-Fusion® and Capture™!
M. Raman (Saint-Germain-en-Laye/FR)

13:45–14:45 Plenary Session 2

RW 1 Chemical Communication
Chairs Anja Schöffler (Kaiserslautern/DE), Eckhard Thines (Kaiserslautern, Mainz/DE)

13:45 Microbial symbioses as sources of evolutionary innovation in insects
IL06 Martin Kaltenpoth (Mainz/DE)

14:15 „Small Talk“ – Chemical communication of entomopathogenic bacteria
IL07 Ralf Heermann (Mainz/DE)

14:45–17:00 Poster Session 1 (see page 65 for details)

Foyer First Floor, Philosophicum

15:00–18:00 Antragsberatung der Deutschen Forschungsgemeinschaft (DFG)

P15 Interested participants are asked to refer to the check-in desk in order to register for the consultation.

17:00–19:00 Mini Symposium 2 – Environmental Microbiology

RW 1

Chairs Rainer Meckenstock, Alexander J. Probst (Essen/DE)

17:00 The unique cell structure and genomic organization of the world's largest
EMV-FG01 freshwater bacterium, *Achromatium oxaliferum*

D. Ionescu, M. Bizic-Ionescu (Stechlin/DE), N. De Maio (Oxford/GB)

H. Cypionka (Oldenburg/DE), H.-P. Grossart (Stechlin, Potsdam/DE)

17:30 A new picture of major players in the nitrogen cycle – Genome resolved
EMV-FG02 metagenomics as the key to surprising discoveries
H. Daims (Vienna/AT)

18:00 Pirating the pirates – Metagenome-informed microscopy reveals infections
EMV-FG03 of *Altithaerarchaeota* in deep subsurface ecosystems

A. J. Probst, J. Rahlff, K. Schwank, T. L. V. Bornemann, C. Moraru (Essen/DE)

18:15 PhenDB – Deciphering the microbiome – Large-scale prediction of microbial
EMV-FG04 roles and traits

P. Hyden, J. Geijo, L. Lüttinger, F. Piewald, P. Peneder, T. Rattei (Vienna/AT)

18:30 Genome-centric views on decomposer activity

EMV-FG05 S. F. M. Wahdan, W. Purahong, A. Heintz-Buschart (Halle a. d. S./DE)

18:45 Linking meta-Omics with processes – Why and how?

EMV-FG06 T. Urich, Ha. Wang, A. Söllinger (Greifswald/DE)

17:00–18:30 Mini Symposium 3 – Cyanobacteria

P7

Chair Dirk Schneider (Mainz/DE)

17:00 From visualisation of metabolic machinery architecture and biosynthesis to
CAV-FG01 synthetic engineering

Lu. Liu (Liverpool/GB)

17:45 The distinct properties of thylakoid membranes control IM30-mediated
CAV-FG02 membrane fusion

C. Siebenaller, A. Thurotte, J. Heidrich, Di. Schneider (Mainz/DE)

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18:00
CAV-FG03 Gated septal junctions allow cell-cell communication in filamentous cyanobacteria

A.-K. Kieninger (Tübingen/DE), G. Weiss, M. Pilhofer (Zürich/CH)
K. Forchhammer, I. Maldener (Tübingen/DE)

18:15
CAV-FG04 Outer Membrane Vesicles in *Synechocystis* sp. PCC 6803 are enriched with small plasmid DNA

C. Taubenheim, J. Taubenheim, N. Hülter, T. Dagan (Kiel/DE)

17:00–19:00 Mini Symposium 4 – Regulation and Signal Transduction in Prokaryotes

P10

Chairs Ilka Bischofs, Georg Fritz (Marburg/DE)

17:00
RSV-FG01 Linking single cell behaviors to the formation of multicellular patterns in a predatory bacterium

T. Mignot (Marseille/FR)

17:40
RSV-FG02 A multifunctional protein in the *Bacillus subtilis* biofilm matrix

N. Stanley-Wall (Dundee/GB)

18:20
RSV-FG03 Regulated Stochasticity in Phosphorelay signaling

M. Goulian (Philadelphia, PA/US)

17:00–19:00 Mini Symposium 5 – Microbial Cell Biology

P11

Chairs Marc Bramkamp (München/DE), Dieter Jendrossek (Stuttgart/DE)

17:00
MCV-FG01 New insights into bacterial chemoreceptor arrays by electron cryotomography

W. Yang (Leiden/NL), C. K. Cassidy (Urbana, IL/US), S. Ringgaard (Marburg/DE)
S. Parkinson (Salt Lake City, UT/US), A. Briegel (Leiden/NL)

17:30
MCV-FG02 Mechanisms of bacterial cell wall synthesis and repair

W. Vollmer (Newcastle upon Tyne/GB)

18:00
MCV-FG03 Coordination of *S. aureus* capsule biosynthesis into cell wall biosynthetic networks

T. Schneider (Bonn/DE)

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18:30 Bacteria's different ways to recycle their own cell wall
MCV-FG04 Christo. Mayer, M. Borisova, I. Hottmann, M. Mühleck, R. Kluj, A. Walter
S. Unsleber (Tübingen/DE)

17:00–19:00 Mini Symposium 6 – Identification and Systematics

P13 Potentials and limitations of modern identification techniques
Chairs Hans-Jürgen Busse (Vienna/AT), André Lipski (Bonn/DE)

17:00 Matrix assisted laser desorption ionization time of flight (MALDI TOF) mass
ISV-FG01 spectrometry – a promising tool for microbial species identification in
veterinary microbiology
J. Spengler (Vienna/AT)

17:40 Identification and characterization of microorganisms by FTIR spectroscopy:
ISV-FG02 perspectives and limitations of the method
M. Wenning (Oberschleißheim/DE)

18:20 Potential and Limitations of Whole Genome Sequences for Identification of
ISV-FG03 Prokaryotes
B. Bunk (Braunschweig/DE)

17:00–19:00 Mini Symposium 7 – Biotransformation

P2 New developments in enzyme/protein design with
focus on bioinformatics/in-silico engineering
Chair Andreas Vogel (Leipzig/DE)

17:00 Computational design of new and improved enzymes
BTV-FG01 O. Kheronsky (Rehovot/IL)

17:30 Conformational heterogeneity in enzyme design
BTV-FG02 C. Curado-Carballada, F. Feixas, J. Iglesias-Fernández (Girona/ES)
S. Osuna (Girona, Barcelona/ES)

18:00 innov'SAR: a new approach for protein engineering and screening
BTV-FG03 F. Cadet, N. Fontaine, M. Ng Fuk Chong, R. Pandjaitan (Paris/FR)

18:30 In-silico design and screening of enzyme libraries
BTV-FG04 D. B. Janssen (Groningen/NL)

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17:00–19:00 Mini Symposium 8 – Symbiotic Interactions

- P3
Chairs The impact of the microbiome on host ecology and evolution
Martin Kaltenpoth (Mainz/DE), Jillian Petersen (Vienna/AT)
- 17:00 On the search for host proteins mediating host-endosymbiont interaction
SIV-FG01 E. Nowack (Düsseldorf/DE)
- 17:30 NanoSIMS – a quantitative approach to study metabolism in symbioses
SIV-FG02 E. Gibbin (Lausanne/CH), G. Banc-Prandi (Eilat/IL)
M. Fine (Eilat, Ramat-Gan/IL), A. Meibom (Lausanne/CH)
- 18:00 Host-microbe interactions in marine thiotrophic symbioses
SIV-FG03 R. Ponnudurai (Heidelberg/DE), T. Hinzke, T. Schweder
S. Markert (Greifswald/DE)
- 18:30 Phenotypic heterogeneity of the bee gut symbiont *Frischella perrara* – An
SIV-FG04 important trait for host colonization?
K. Schmidt, O. Emery, Y. El Chazli, P. Engel (Lausanne/CH)

17:00–19:00 Mini Symposium 9 – Functional Genome Analysis

- P4
Chair Rolf Daniel (Göttingen/DE)
- 17:00 Drugs from dirt – Mining and expressing biosynthetic gene clusters from
FGV-FG01 soil metagenomes
M. Liles (Auburn, AL, Madison, WI/US), A. Pereira, M. Sandoval-Powers
Y. Zhang, A. I. Calderón (Auburn, AL/US), D. Mead (Madison, WI/US)
- 17:40 Tax4Fun2 – a rapid R-based tool for the prediction of habitat-specific functions
FGV-FG02 and functional redundancy based on 16S rRNA gene marker gene sequences
F. Wemheuer, J. Taylor (Sydney/AU), R. Daniel (Göttingen/DE)
E. Johnston (Sydney/AU), P. Meinicke (Göttingen/DE), T. Thomas
B. Wemheuer (Sydney/AU)
- 18:05 Fate of antibiotic-resistant bacteria in German wastewater treatment
FGV-FG03 systems
Do. Schneider, S. Zachmann, M. Karnstedt, T. Böer (Göttingen/DE)
D. Zühlke (Greifswald/DE), F. Stressmann, K. Premke (Berlin/DE)
K. Riedel (Greifswald/DE), R. Daniel (Göttingen/DE)

18:25
FGV-FG04 The fate of antibiotic resistances and antibiotic resistant bacteria during wastewater treatment assessed by metaproteomics
D. Zühlke (Greifswald/DE), Do. Schneider (Göttingen/DE), S. Maaß
D. Becher (Greifswald/DE), R. Daniel (Göttingen/DE)
K. Riedel (Greifswald/DE)

17:00–19:00 Mini Symposium 10 – Microbial Pathogenicity

P5
Chairs Virulence-associated protein secretion and function of secreted proteins
Dirk Linke (Oslo/NO), Samuel Wagner (Tübingen/DE)

17:00
MPV-FG01 Structure and assembly of the T4BSS of *Legionella pneumophila*
D. Chetrit (New Haven, CT/US)

17:25
MPV-FG02 Insights into the autotransport process of a trimeric autotransporter,
Yersinia Adhesin A (YadA)
N. Chauhan, D. Hatlem, M. Orwick-Rydmark, K. Schneider (Oslo/NO)
M. Floetenmeyer (St. Lucia Queensland/AU), B. van Rossum (Berlin/DE)
J. C. Leo, D. Linke (Oslo/NO)

17:37
MPV-FG03 Life after secretion – stop of T3SS-based protein translocation in response
to external signals and its effect on *Yersinia enterocolitica*
A. Diepold (Marburg/DE)

17:49
MPV-FG04 Minimal SPI1-T3SS effector requirement for *Salmonella* enterocyte invasion
and intracellular proliferation *in vivo*
K. Zhang, A. Riba (Aachen/DE), M. Nietschke (Osnabrück/DE)
N. Torow (Aachen/DE), U. Repnik (Oslo/NO), A. Pütz (Aachen/DE)
M. Fulde (Berlin/DE), A. Dupont (Aachen/DE), M. Hensel (Osnabrück/DE)
M. Hornef (Aachen/DE)

18:01
MPV-FG05 Bacterial type three secretion system effectors reprogram human
macrophages through epigenetic histone modifications
I. Bekere, M. Schnapp, L. Berneking, J. Huang, T. Günther
M. Aepfelbacher (Hamburg/DE)

18:13
MPV-FG06 Modulation of ER stress signaling by the *Coxiella burnetii* type IV effector
protein CaeB
A. Friedrich (Erlangen/DE), P. A. Beare (Hamilton, MD/US), S. Sonnewald
A. Lührmann (Erlangen/DE)

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- 18:25
MPV-FG07 Secreted Phospholipases of the Lung Pathogen *Legionella* – Modes of Secretion and Impact on Virulence
A. Flieger (Wernigerode/DE)
- 18:37
MPV-FG08 Subversion of retromer function by the Legionella effector RidL
K. Bärlocher, H. Hilbi (Zürich/CH)
- 18:49
MPV-FG09 Virulence-associated protein secretion by the gastric pathogen *Helicobacter pylori*
S. Backert (Erlangen/DE)

19:00–19:30 Meetings of the VAAM Special Groups | General Meetings

(see p. 24 for details)

08:30–10:30 Short Lecture 9

- RW 1 Environmental Microbiology II – Terrestrial and Plant Microbiology
Chairs Oliver Lenz (Berlin/DE), Irene Wagner-Döbler (Braunschweig/DE)
- 08:30 Activity of the nodule specific NCR247 peptide expressed during the
EMV09 *Sinorhizobium-Medicago* legume symbiosis is dependent on its
 enantiomeric form
 Ma. Arnold, S. Sankari, G. Walker (Cambridge, MA/US)
- 08:45 Colonization dynamics of *Pantoea sp.* on germ free wheat root
EMV10 R. Soluch, N. Hülter, T. Dagan (Kiel/DE)
- 09:00 Potential of actinobacteria to enhance tolerance of tomato (*Lycopersicon*
EMV11 *esculentum*) to drought stress through production of
 1-aminocyclopropane-1-carboxylic acid (ACC) deaminase
 K. El-Tarabily, A. Al Khajeh, M. Al Darmaki, F. Khoory, M. Alblooshi
 A. Albadwawi, A. Al Zahmi (Al-Ain/AE)
- 09:15 Metagenomics reveal how rainforest conversion affects specific groups of
EMV12 microbial communities and microbiome functionality in soils
 D. Berkelmann, Do. Schneider (Göttingen/DE), A. Meryandini (Bogor/ID)
 R. Daniel (Göttingen/DE)
- 09:30 Scavenging atmospheric gases for energy and the ecological implications in
EMV13 soil acidobacteria
 S. A. Eichorst, D. Trojan, A. Giguere (Vienna/AT)
 E. G. Robledo (Puerto Real/ES, Aarhus/DK), S. Roux (Walnut Creek, CA/US)
 C. Herbold, A. Richter (Vienna/AT), N. P. Revsbech (Aarhus/DK), T. Rattei
 D. Woebken (Vienna/AT)
- 09:45 Dynamics of bacterial mineral colonization in natural grasslands
EMV14 S. Vieira, J. Sikorski (Braunschweig/DE), R. Boeddinghaus, S. Marhan
 E. Kandeler (Stuttgart/DE), J. Overmann (Braunschweig/DE)
- 10:00 Only the fit can access the Goldilocks zone
EMV15 R. Jerdan (Dundee/GB), A. Kusmierska (Dundee/GB, Łódź /PL), N. White
 A. Spiers (Dundee/GB)

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10:15 Gnotobiotic and whole genome sequence studies reveal that *Burkholderia*
EMV16 sp. strain Nafp2/4-1b is a potential candidate for commercial inoculant in sustainable crop production in South Africa
A. I. Hassen, Z. H. Swanevelder, L. S. Khambani (Pretoria/ZA)

08:30–10:30 Short Lecture 10

P10 Biotechnology II – Materials, Environment, Food and BCAs
Chairs Eckhard Boles (Frankfurt a. M./DE), Frank Breinig (Saarbrücken/DE)

08:30 Generation of nanomagnetic hybrid materials by genetic engineering of
BT09 bacterial magnetosomes from *Magnetospirillum gryphiswaldense*
F. Mickleit, D. Schüler (Bayreuth/DE)

08:45 Identification of process parameters shaping microbial communities in
BTV10 biogas plants using large scale metaproteome analysis
R. Heyer, K. Schallert, S. Püttker, F. Kohrs, P. Hellwig (Magdeburg/DE)
S. Theuerl (Potsdam/DE), A. Schlüter (Bielefeld/DE), U. Reichl
D. Benndorf (Magdeburg/DE)

09:00 Influence of flue gas and increased CO₂-concentrations on terrestrial
BTV11 cyanobacteria
D. Strieth, J. Stiefelmaier (Kaiserslautern/DE), K. Muffler (Bingen/DE)
R. Ulber (Kaiserslautern/DE)

09:15 Extremely thermoactive archaeal endoglucanase from a shallow marine
BTV12 hydrothermal vent from Vulcano Island
M. Suleimann, A. Krüger, C. Schröder, B. Klippel, C. Schäfers
G. Antranikian (Hamburg/DE)

09:30 Carbon-efficient feedstock conversion for the production of bio-succinate
BTV13 and further reduced compounds
P. Weyrauch, A. Arnold, R. Carr (Roslin, Midlothian/GB), M. Roger
F. Sargent (Newcastle upon Tyne/GB), D. Smith (St. Andrews/GB)
F. Brown (Roslin, Midlothian/GB)

09:45 Insights into xylan utilization of thermophiles by complete genome
BTV14 sequencing of *Thermus brockianus* strain GE-1
C. Schäfers, C. Hagedorn, S. Wiebusch, G. Antranikian (Hamburg/DE)

10:00 Diversity mutation recombination and evolution of tomato leaf curl
BTV15 geminiviruses disease complex in Pakistan and its control strategies using RNAi
M. Shafiq (Lahore/PK)

10:15 Metabolization of glycosylated amino acids from wort by *S. cerevisiae* leads to
 BTV16 novel metabolites in beer
M. Hellwig, A.-L. Kertsch, T. Henle (Dresden/DE)

08:30–10:30 Short Lecture 11

P11 Anaerobic Respiration – Materials, Environment, Food and BCAs
 Chairs Christiane Dahl (Bonn/DE), Arnulf Kletzin (Darmstadt/DE)

08:30 Hydrogenase 4 in *Trabulsilla guamensis* forms a labile H₂-producing
 ARV01 formate hydrogenlyase complex
 U. Lindenstrauß, C. Pinske (Halle a. d. S./DE)

08:45 The Role of Formate in Haloalkaline Sulfate Reducing Environments
 ARV02 C. Plugge (Wageningen, Leeuwarden/NL), E. Koppius (Wageningen/NL)
 J. Sousa (Wageningen, Balk, Leeuwarden/NL), A. Stams (Wageningen/NL)
 D. Sorokin (Moscow/RU, Delft/NL)

09:00 Role of the Iron-Sulfur Flavoprotein DsrL in sulfur-oxidizing and
 ARV03 sulfate-reducing bacteria
M. I. Löffler, J. Feldhues, V. Klingbeil (Bonn/DE), S. Venceslau
 I. A. C. Pereira (Oeiras/PT), C. Dahl (Bonn/DE)

09:15 The terminal oxidases of *Opitutaceae* (phylum: *Verrucomicrobia*) and their
 ARV04 differential response to environmental oxygen concentrations
C. Feldewert, D. Tegtmeier, A. Brune (Marburg/DE)

09:30 The cytochrome *bcc-aa₃* oxidase supercomplex is required for
 ARV05 Nar1-dependent nitrate respiration in spores of *Streptomyces coelicolor*
D. Falke, M. Fischer, G. Sawers (Halle a. d. S./DE)

09:45 A novel glycyl-radical enzyme (GRE) enables sulfidogenic taurine respiration
 ARV06 in the human gut bacterium *Bifidobacterium wadsworthia*
A. Burrichter (Konstanz/DE), S. C. Peck (Cambridge, MA/US)
 K. Denger (Konstanz/DE), E. P. Balskus (Cambridge, MA/US)
 D. Schleheck (Konstanz/DE)

10:00 Na⁺-transport by an ancient respiratory enzyme, the Rnf complex
 ARV07 D. Trifunovic (Frankfurt a. M./DE), H. Huber (Regensburg/DE)
 V. Müller (Frankfurt a. M./DE)

10:15 Exploring the chemoautotrophic abilities of a diazotrophic sulfate-reducer
 ARV08 methanogen
N. Maslac, M. Jespersen, T. Wagner (Bremen/DE)

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08:30–10:30 Mini Symposium 11 – Quality Assurance and Diagnostics

P13 Digitalization and the use of data in biotechnology and for quality assurance
Chairs Steffen Prowe (Berlin/DE), Andreas Seiffert-Störko (Höchst/DE)

08:30 Miniaturization, Automation and Digitalization in Biotechnology:
QAV-FG01 Incremental Progress or Disruptive Change?
W. Wiechert (Jülich/DE)

09:00 Smart and connected – towards the lab of the future
QAV-FG02 F. Hauer (Berlin/DE)

09:15 How lab automation can contribute to the design of digital cells and the
QAV-FG03 development of bioprocesses
P. Neubauer, S. Hans, M. N. Cruz-Bournazou (Berlin/DE)

09:45 Sens-o-Spheres: Mobile sensor probes for biotechnological processes
QAV-FG04 T. Lauterbach, F. Lenk, T. Walther (Dresden/DE)

08:30–10:30 Short Lecture 12

P2 Gene Regulation/Microbial Stress Response – RNA-mediated Gene
Regulation/Microbial Stress Response in Biofilms
Chairs Gerd M. Seibold (Ulm/DE), Annegret Wilde (Freiburg i. Br./DE)

08:30 Bacterial sRNAs are conserved but their targets are not - Lessons learned
GR-MSV01 from and for comparative target prediction with CopraRNA
P. R. Wright (Basel/CH), M. Raden, F. Eggenhofer, W. R. Hess, R. Backofen
J. Georg (Freiburg i. Br./DE)

08:45 Gene regulation in trans by the bacterial attenuator sRNA *rnTrpL* and the
GR-MSV02 leader peptide *peTrpL*
H. Melior, S. Li, M. Stötzel (Gießen/DE), R. Madhugiri
K. U. Förstner (Würzburg/DE), R. Schütz, S. Barth-Weber, K. Baumgardt
J. Ziebuhr, E. Evgueniev-Hackenberg (Gießen/DE)

09:00 The involvement of the antisense RNA *RSaspuFL* in regulated formation of
GR-MSV03 photosynthesis complexes in *Rhodobacter sphaeroides*
C. M. Reuscher, G. Klug (Gießen/DE)

09:15 NynA, a novel RNase of the Alphaproteobacteria
GR-MSV04 M. McIntosh, L. Paul (Gießen/DE), R. Matos (Lisbon/PT)
V. Srinivasan (Marburg/DE)

09:30 A novel mineral component of the biofilm extracellular matrix promotes
GR-MSV05 antibiotic resistance
I. Kolodkin-Gal, I. Karukner, A. Keren-Paz (Rehovot/IL)

09:45 Biofilm architectural breakdown in response to antibiotics facilitates
GR-MSV06 community invasion
F. Díaz-Pascual, R. Hartmann, M. Lempp, L. Vidakovic (Marburg/DE)
B. Song (Cambridge, MA/US), F. H. Yildiz (Santa Cruz, CA/US)
J. Dunkel (Cambridge, MA/US), H. Link (Marburg/DE)
C. D. Nadell (Marburg/DE, Hanover, NH/US), K. Drescher (Marburg/DE)

10:00 *In vitro* evaluation of biofilm-inhibiting compounds to treat infective
GR-MSV07 endocarditis
V. Pauker, D. Gottschling, L. Maletzki, A. Strohbach (Greifswald/DE)
S. Petersen (Osnabrück/DE), S. Kohse, N. Grabow (Rostock/DE)
K. Riedel (Greifswald/DE)

10:15 Proteomics reveal enhanced oxidative stress responses and metabolic
GR-MSV08 adaptation in *Acidithiobacillus ferrooxidans* biofilm cells on pyrite
S. Bellenberg (Kalmar/SE), N. D. Huynh (Freiberg/DE)
A. Poetsch (Kalmar/SE, Plymouth/GB), W. Sand (Freiberg/DE, Shanghai/CI)
M. Vera (Santiago/CL)

08:30–10:30 Short Lecture 13

P3 Synthetic Microbiology and Secondary Metabolomics II – Secondary
Metabolites and their Synthesis
Chairs Heike Brötz-Oesterhelt (Tübingen/DE), Torsten Waldminghaus (Marburg/DE)

08:30 Identification of the polyketide synthase gene responsible for the synthesis
SMV09 of Tanzawaic acids in *Penicillium steckii* IBWF104-06.
L. Antelo, A. Bernal (Kaiserslautern/DE)
S. Jacob (Kaiserslautern, Mainz/DE), K. Andresen (Mainz/DE)
A. Yemelin (Kaiserslautern/DE), H. Hartmann (Ludwigshafen/DE)
E. Thines (Kaiserslautern, Mainz/DE)

08:45 Linking genomic and metabolic diversity of the myxobacterial genus
SMV10 *Sorangium*
F. Panter (Saarbrücken/DE), M. Steglich (Braunschweig/DE)
N. Zaburannyi (Saarbrücken/DE), A. K. Szafranska, C. Wolf, K. Mohr, J. Wink
R. L. Hahnke, J. Meier-Kolthoff, B. Bunk, J. Overmann
M. Göker (Braunschweig/DE), D. Krug (Saarbrücken/DE)
R. Müller (Saarbrücken, Braunschweig/DE), U. Nübel (Braunschweig/DE)

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- 09:00 Heterologous production of pseudochelin in *Myxococcus xanthus*
SMV11 A. Sester, J. Korp (Dortmund, Jena/DE), L. Winand, M. Nett (Dortmund/DE)
- 09:15 Unravelling the Biosynthetic Pathway of Polythioamide Antibiotics in
SMV12 Anaerobic Bacteria
K. L. Dunbar, H. Büttner, M. Dell, E. M. Molloy, J. Kumpfmüller
C. Hertweck (Jena/DE)
- 09:30 *Serratia plymuthica* C-methyltransferase with novel activities: methylation
SMV13 and simultaneously five-ring cyclisation in the biosynthesis of the secondary
metabolite sodorifen
M. C. Lemfack (Rostock/DE), S. von Reuß (Neuchâtel/CH)
D. Domik (St. Paul, MN/US), N. Magnus, M. Kai (Rostock/DE)
T. Weise (Lübeck/DE), B. Piechulla (Rostock/DE)
- 09:45 Flavin-dependent enzymatic synthesis of the griseorhodin A
SMV14 pharmacophore
B. Frensch, R. Teufel (Freiburg i. Br./DE)
- 10:00 New biosynthetic principles towards protease inhibitors in bacteria
SMV15 F. Leipoldt, F. Wolf, A. Kulik, H. Gross (Tübingen/DE)
A. Truman (Tübingen/DE, Norwich/GB), L. Kaysser (Tübingen/DE)
- 10:15 Natural Products from Predator-Prey Interactions
SMV16 P. Stallforth (Jena/DE)

08:30–10:30 Short Lecture 14

- P4 Environmental Microbiology III/Chemical Communications – Novel
approaches in Environmental Microbiology
Chairs Stefan Jacob (Kaiserslautern, Mainz/DE)
Jürgen Lassak (Planegg-Martinsried/DE)
- 08:30 Separation techniques for particle-associated marine bacteria
EM-CCV01 A. Heins, R. Amann, J. Harder (Bremen/DE)
- 08:45 Targeted cell sorting combined with single cell genomics reveals nineteen
EM-CCV02 novel *Chloroflexi* species from a Uruguayan winery wastewater treatment plant
H. Dam, J. Vollmers (Eggenstein-Leopoldshafen/DE)
A. Cabezas da Rosa (Montevideo/UY)
A.-K. Kaster (Eggenstein-Leopoldshafen/DE)
- 09:00 Machine learning to decipher metabolic differences between *Photorhabdus*
EM-CCV03 and *Xenorhabdus*
N. Tobias, C. Parra-Rojas, Y.-N. Shi, Y.-M. Shi (Frankfurt a. M./DE)
A. Thanwisai, A. Vitta, N. Chantratita (Phitsanulok/TH)
E. Hernandez-Vargas, H. B. Bode (Frankfurt a. M./DE)

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09:15 Functional Metagenomics of the *Thioredoxin* Superfamily
EM-CCV04 S. Nilewski, M. Varatnitskaya, N. Lupilov, L. I. Leichert (Bochum/DE)

09:30 Interspecific formation of the antimicrobial volatile schleiferon
EM-CCV05 M. Kai, U. Effmert, M. C. Lemfack, B. Piechulla (Rostock/DE)

09:45 Elucidating the mode of action of a newly discovered glycosylated
EM-CCV06 lanthipeptide
J. Deisinger, A. Müller (Bonn/DE), F. J. Ortiz-López
O. Genilloud (Armillá (Granada)/ES), T. Schneider (Bonn/DE)

10:00 Evaluation of the antagonistic and quitinolytic activity of *Trichoderma* spp., to
EM-CCV07 inhibit the growth of *Moniliophthora roreri* and *Moniliophthora perniciosa*
L. Galarza (Guayaquil/EC)

10:15 Genomic erosion causes nutritional dependency in '*Streptomyces*
EM-CCV08 *philanthi*', the European beewolf defensive symbiont
M. Sandoval-Calderon (Mainz/DE), T. Nechitaylo (Jena/DE)
M. Kaltenpoth (Mainz/DE)

08:30–10:30 Short Lecture 15

P5 Bacterial Cell Biology II – At the Surface of the Cell
Chairs Martin Hagemann (Rostock/DE), Dirk Schüler (Bayreuth/DE)

08:30 Surface Acclimation of the Cyanobacterium *Synechocystis* sp. PCC 6803
BCV09 S. Oeser, T. Wallner, A. Wilde (Freiburg i. Br./DE)

08:45 Methicillin-resistant *Staphylococcus aureus* alters cell wall glycosylation to
BCV10 evade immunity
D. Gerlach, A. Peschel (Tübingen/DE)

09:00 Cytoskeletal confinement of membrane microdomains
BCV11 R. Wagner (Madrid/ES, Würzburg/DE), D. Lopez (Madrid/ES)

09:15 Superresolution microscopy reveals the dynamic behaviour of cell wall
BCV12 synthesis enzymes and of MreB during cell elongation of *Bacillus subtilis*
L. Stuckenschneider, S. Dersch (Marburg/DE), J. Mehl, J. Roth
A. Rohrbach (Freiburg i. Br./DE), P. L. Graumann (Marburg/DE)

09:30 Bacteriophage genome transfer mechanisms at the Gram-negative cell wall
BCV13 N. K. Broecker, M. S. Meyer, F. Kiele, S. Barbirz (Potsdam/DE)

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09:45 Adhesion of *E. coli* on nano-rough titanium surfaces - image and genetic analyses
BCV14

N. Stefani, M. Schürmann, V. Schroeckh, S. Dietrich, T. Wolf, K. D. Jandt
M. T. Figge, G. Panagiotou, A. A. Brakhage (Jena/DE)

10:00 Spatial organization of motility machinery in the archaeal cell
BCV15

T. Quax, Z. Li, S.-V. Albers (Freiburg i. Br./DE)

10:15 Effect of different bile acids on flagella formation in *Clostridioides difficile*
BCV16

N. G. Metzendorf, S. Dittmann, N. Lainer, R. Schlüter, L. Kieper, K. Riedel
S. Sievers (Greifswald/DE)

10:30–11:00 Coffee Break (Foyer A and B, Philosophicum)

11:00–12:30 Plenary Session 3

RW 1 Anaerobic Metabolism
Chairs Matthias Boll (Freiburg i. Br./DE), Wolfgang Buckel (Marburg/DE)

11:00 Cable Bacteria connecting anaerobic and aerobic Worlds
ILO8

Lars Peter Nielsen (Aarhus/DK)

11:30 Acetogens: New paradigms and perspectives for old bugs
ILO9

Volker Müller (Frankfurt a. M./DE)

12:00 Gut Microbiota Metabolism during Health and Disease
IL10

Sebastian Winter (Dallas, TX/US)

12:45–13:45 Lunch Symposium – FortéBio (Molecular Devices GmbH)

P13

12:45 Synthetic Metagenomics: The Next Big Step Converting Digital Information
Back to Useful Biology
D. Zunner, H. Schnerr (Biberach/DE)

12:45–14:15 Karrieresymposium

P10

12:45 Alexandra Krämer | Boehringer Ingelheim
13:15 Julia Rolnik | BKA Wiesbaden
13:45 Maurice Telaar | Infors GmbH

14:15–15:45 Plenary Session 4

RW 1 Chairs	Large Protein Complexes Dirk Schneider (Mainz/DE), Antonio Pierik (Kaiserslautern/DE)
14:15 IL11	Assembly and function of the archaellum Sonja-Verena Albers (Freiburg i. Br./DE)
14:45 IL12	Rethinking the Mla pathway: Evidence for lipid trafficking towards the outer membrane in Gram-negative bacteria Timothy Knowles (Birmingham/GB)
15:15 IL13	Are you stressed? Visualizing the molecular complexity of (p)ppGpp signaling pathways Gert Bange (Marburg/DE)

15:45–18:00 Poster Session 2 (see page 87 for details)

16:00–18:00 Antragsberatung der Deutschen Forschungsgemeinschaft (DFG)

P13	Interested participants are asked to refer to the check-in desk in order to register for the consultation.
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16:00–18:00 Leibniz Research Cluster



P2 Chair	From microbes to microproduction units Vito Valiante (Jena/DE)
16:00 LRC01	Living therapeutic materials: An alternative for personalized delivery of biopharmaceuticals? A. del Campo Bécáres, <u>S. Sankaran</u> (Saarbrücken/DE)
16:30 LRC02	Dynamics of cells in confinement and microflow: From drug testing of unicellular parasites to surface sensing of bacteria T. Pfohl (Freiburg i. Br./DE)
17:00 LRC03	Analysis in miniaturized enzymatic reaction systems <u>U. Münchberg</u> , P. Ebersbach, M. Jender, D. Maehler (Dortmund/DE) S. Hoefgen, V. Valiante (Jena/DE), E. Freier (Dortmund/DE)
17:15 LRC04	Design and implementation of de novo biosynthetic cascades S. Flitsch (Manchester/GB)
17:45 LRC05	Cryo-EM - The path to visual proteomics D. Bollschweiler (Martinsried/DE)

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18:00–19:30 VAAM Assembly (see page 22 for details)

RW 1

from 20:00 Mixer (see page 118 for details)

Halle 45

Mit Seegene sind Sie schneller

SGPREP³²™ Alles* in 20 Minuten

*Automatische Nukleinsäure-Extraktion aus verschiedensten Probenarten

- | | | |
|------------|----------------------|---|
| ✓ Vollblut | ✓ Sputum | ✓ LBC (Liquid based cytology material) |
| ✓ Serum | ✓ Stuhl (Cary-Blair) | ✓ Abstriche (Nasopharyngeal, Vaginal, Zervikal, Urethral, Rektal) |
| ✓ Plasma | ✓ CSF | ✓ Aspirate (Nasopharyngeal) |
| ✓ Zellen | ✓ Urine | ✓ BAL (Bronchoalveolar Lavage) |

Gleichzeitige Bearbeitung verschiedener Probentypen möglich

- Geeignet für die Extraktion von bakterieller, viraler, parasitärer und fungaler Nukleinsäure
- Parallele Extraktion von DNA und RNA
- Ready-to-use Reagenzkartuschen
- Intuitive Bedienung
- Extraktion von 1 bis zu 32 pro Lauf, je nach Bedarf

Klein, schnell, sicher

- Kompakte Größe (340 x 420 x 345 mm)
- Hinterlegte Programme
- Integrierte UV-Lampe



(STARMag 96 UniPlate/UniTube)



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09:00–11:00 Short Lecture 16

RW 1	Environmental Microbiology IV – Biochemistry related Environmental Microbiology
Chairs	Hauke Harms (Leipzig/DE), Ok Bin Kim (Seoul/KR)
09:00 EMV17	Persulfide dioxygenase from <i>Acidithiobacillus caldus</i> – variable Roles of cysteine residues and hydrogen bond networks of the active site <u>P. Rühl</u> , D. Tietze (Darmstadt/DE), F. Folgosa, M. Teixeira C. Frazão (Oeiras/PT), A. Kletzin (Darmstadt/DE)
09:15 EMV18	Significance of MccR, MccC, MccD, MccL and 8-methylmenaquinone in <i>Wolinella succinogenes</i> sulfite respiration <u>J. Eller</u> , S. Hein, J. Simon (Darmstadt/DE)
09:30 EMV19	Methane-derived carbon-flow through a microbial community in a stratified lake <u>S. Schorn</u> , J. Graf, S. Littmann, P. Hach, G. Lavik M. M. M. Kuypers (Bremen/DE), Ca. Schubert (Kastanienbaum/CH) J. Milucka (Bremen/DE)
09:45 EMV20	Microbial Loop in an Anaerobic Hydrocarbon-degrading Enrichment Culture <u>A. Akbari</u> , R. U. Meckenstock (Essen/DE)
10:00 EMV21	Regulatory Response Dynamics towards <i>p</i> -Cresol in the Denitrifying Bacterium „ <i>Aromatoleum aromaticum</i> “ EbN1 <u>J. Vagts</u> , A. Weiten, L. Wöhlbrand, R. Rabus (Oldenburg/DE)
10:15 EMV22	Identification of the first glyphosate transporter by genomic adaptation <u>L. M. Schulz</u> , D. Wicke, P. Scholz, A. Poehlein, J. Gihardt, R. Daniel T. Ischebeck, F. M. Commichau (Göttingen/DE)
10:30 EMV23	Characterization of bacterial isolates tolerating extreme levels of the herbicide glyphosate S. Lentjes, A. Poehlein, R. Daniel, <u>F. M. Commichau</u> (Göttingen/DE)
10:45 EMV24	Degradation of azo dyes using native and mutated azo reductase of <i>Rhodococcus opacus</i> 1CP <u>A. C. Ngo</u> , D. Tischler (Bochum/DE)

09:00–11:00 Short Lecture 17

- P10 Biotechnology III – Tool Development and Assay Systems
Chairs Katja Bettenbrock (Magdeburg/DE), Johannes Bongaerts (Aachen/DE)
- 09:00 Towards a competitive expression platform: A high-throughput screen for
BTV17 an enhanced unconventional secretion capacity in *Ustilago maydis*
 K. Hußnätter, M. Philipp (Düsseldorf, Jülich/DE), J. Stock (Düsseldorf/DE)
 M. Terfrüchte (Jülich, Düsseldorf/DE), M. Feldbrügge
 K. Schipper (Düsseldorf, Jülich/DE)
- 09:15 RGB-S Reporter: a novel multi-stress reporting tool for bacterial planktonic
BTV18 and biofilm stress sensing
 A. E. Zoheir, K. S. Rabe (Eggenstein-Leopoldshafen/DE)
- 09:30 Integrated omics: A tool for the discovery of biocatalysts
BTV19 P. Busch, M. Suleiman, C. Schäfers, G. Antranikian (Hamburg/DE)
- 09:45 New versatile plasmids for genetic analyses of mycobacteria
BTV20 P. Dornbusch, G. Landázuri, J. Blázquez (Madrid/ES), T. Munder (Jena/DE)
 S. Gola (Jena/DE, Madrid/ES)
- 10:00 Identifying and developing novel carbene-transferring enzymes
BTV21 M. Weissenborn (Halle a. d. S./DE)
- 10:15 From microbes to microproduction units: Magnetically recoverable,
BTV22 thermally controllable and reusable biocatalyst for polyketide synthesis
 J. Cui, B. P. Krishnan, L. O. Prieto-López (Saarbrücken/DE)
- 10:30 Immobilization of enzymes in polysaccharide microgels for production of
BTV23 polyketide building blocks
 C. Graf (Dresden/DE), S. Höfgen (Jena/DE), M. Männel, N. Hauck
 A. Kaufmann, T. Köhler (Dresden/DE), V. Valiante (Jena/DE)
 J. Thiele (Dresden/DE)
- 10:45 Screening for novel protein synthesis inhibitors within the 'Tübingen strain
BTV24 collection'
 F. Handel, W. Wohlleben, Y. Mast (Tübingen/DE)

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09:00–11:00 Short Lecture 18

- P11 Membranes and Transport
Chairs Inga Hänelt (Frankfurt a. M./DE), Constanze Pinske (Halle a. d. S./DE)
- 09:00 The cryo-EM structure of respiratory complex I at work
MTV01 K. Parey (Frankfurt a. M./DE), U. Brandt (Nijmegen/NL), H. Xie, D. Mills
 K. Siegmund, J. Vonck, W. Kühlbrandt
 V. Zickermann (Frankfurt a. M./DE)
- 09:15 Evidence for a switch in Tata interactions as trigger of Tat transport by
MTV02 TatABC systems
 H. Geise, T. Brüser (Hannover/DE)
- 09:30 Cryo-EM structures of KdpFABC reveal K⁺ transport mechanism via two
MTV03 inter-subunit half-channels
 C. Stock (Frankfurt a. M./DE), L. Hielkema (Groningen/NL), I. Tascon
 D. Wunnicke (Frankfurt a. M./DE), G. T. Oostergetel (Groningen/NL)
 M. Azkargorta (Derio/ES), C. Paulino (Groningen/NL)
 I. Hänelt (Frankfurt a. M./DE)
- 09:45 Structural and functional analyses of a bacterial protein translocation
MTV04 domain that has adopted diverse pathogenic effector functions within
 host cells
 A. Wagner, N. Dietz, M. Huber, C. E. M. Seyfert, C. Tittes, T. Schirmer
 C. Dehio (Basel/CH)
- 10:00 Mechanisms of secretion substrate selectivity of the flagellar type-III
MTV05 secretion system
 A. Guse, M. Erhardt (Berlin/DE)
- 10:15 Conformational flexibility of an ECF-type cobalt transporter as a basis
MTV06 for metal binding
 F. Finkenwirth, M. Gäde (Berlin/DE), C. Hermann
 I. Orban (Osnabrück/DE), S. N. Pecina (Berlin/DE), A. Ricke, M. Sippach
 H.-J. Steinhoff (Osnabrück/DE), T. Eitinger (Berlin/DE)
- 10:30 Identification of small proteins in the membrane-associated Proteome
MTV07 of *Pseudomonas aeruginosa* strain PA01
 E. Lehmann, M. Kucklick (Braunschweig/DE), J. Wissing
 L. Jänsch (Braunschweig/DE), S. Fuchs (Wernigerode/DE)
 S. Engelmann (Braunschweig/DE)
- 10:45 Functional characterization of a lipid anchored protein in
MTV08 *Staphylococcus aureus*
 J. Bosselmann, M. Kucklick, S. Engelmann (Braunschweig/DE)

09:00–11:00 Short Lecture 19

- P13 Archaea/Fungal Physiology – Response and Regulation
Chairs Michael Feldbrügge (Düsseldorf/DE), Michael Rother (Dresden/DE)
- 09:00 Towards the catalytic and protection mechanism of [Fe]-hydrogenase
AR-FPV01 G. Huang, T. Wagner (Marburg/DE), K. Ataka (Berlin/DE)
E. Bill (Mülheim a. d. Ruhr/DE), U. Ermler (Frankfurt a. M./DE)
S. Shima (Marburg/DE)
- 09:15 Deletion studies on putative pilin genes in *Halobacterium salinarum* R1
AR-FPV02 G. Losensky, F. Pfeifer (Darmstadt/DE)
- 09:30 Investigation of methanogen-induced microbiologically influenced
AR-FPV03 corrosion (Mi-MIC) using simulated marine environments under flowing
conditions
B. A. An, A. Hermann, S. Kleinbub, A. Koerdt (Berlin/DE)
- 09:45 Assigning functions to unknown proteins in Archaea - α/β hydrolases
AR-FPV04 from the Thaumarchaeon *Nitrososphaera gargensis*
J. Chow, D. Danso (Hamburg/DE), M. Ferrer (Madrid/ES)
W. R. Streit (Hamburg/DE)
- 10:00 Rapid adaptation of signaling networks in the fungal pathogen
AR-FPV05 *Magnaporthe oryzae*
S. Bohnert, L. Antelo (Kaiserslautern/DE), C. Grünwald (Mainz/DE)
A. Yemelin (Kaiserslautern/DE), K. Andresen (Mainz/DE)
E. Thines (Kaiserslautern, Mainz/DE)
S. Jacob (Mainz, Kaiserslautern/DE)
- 10:15 Systematic analysis of cysteine residues within the preprotoxin of yeast
AR-FPV06 viral killer toxin K1 reveals novel insights in heterodimer formation and
immunity
S. Gier, M. Lermen, M. J. Schmitt, F. Breinig (Saarbrücken/DE)
- 10:30 A novel player in archaeal cell-division: CdvD
AR-FPV07 M. van Wolferen (Freiburg i. Br./DE), G. Tarrason Risa (London/GB)
S. Schwarzer (Freiburg i. Br./DE), B. Baum (London/GB)
S.-V. Albers (Freiburg i. Br./DE)
- 10:45 The AFP family of antifungal peptides – Similar, but not the same
AR-FPV08 S. Jung, L. Heber, N. Paegge (Berlin/DE), D. Warnecke (Hamburg/DE)
T. Utesch, M. A. Mroginski, V. Meyer (Berlin/DE)

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09:00–11:00 Short Lecture 20

P2	Microbial Stress Response
Chairs	Ilka Bischofs (Marburg/DE), Elisabeth Härtig (Braunschweig/DE)
09:00 MSV01	Where no sugar has gone before – The formation of an arginine glycoconjugate on the bacterial translation elongation factor EF-P <u>R. Krafczyk</u> (Planegg-Martinsried, München/DE), J. Macošek P. K. A. Jagtap (Heidelberg/DE) W. Volkwein (Planegg-Martinsried, München/DE), D. Gast S. Wunder (München/DE), P. Mitra, A. K. Jha, J. Rohr (Lexington, KY/US) A. Hoffmann-Röder (München/DE), J. Hennig (Heidelberg/DE), K. Jung J. Lassak (Planegg-Martinsried, München/DE)
09:15 MSV02	Targeting ribosome rescue in bacteria: The proteomic response <u>M. Vázquez-Hernández</u> , A. Yayci (Bochum/DE), J. Alumasa K. Keiler (Philadelphia, PA/US), J. Bandow (Bochum/DE)
09:30 MSV03	Osmoadaptation in the halophilic bacterium <i>Halomonas elongata</i> : mechanosensitive channels are not essential for the export of ectoine <u>J. Vandrich</u> , G. Alfaro-Espinoza, H.-J. Kunte (Berlin/DE)
09:45 MSV04	Different strategies to defend against photooxidative stress in <i>Rhodobacter</i> G. Klug, <u>M. K. Licht</u> (Gießen/DE), A. Konzer (Bad Nauheim/DE)
10:00 MSV05	The MhqR repressor confers resistance to quinone-like antimicrobials in <i>Staphylococcus aureus</i> <u>V. N. Fritsch</u> , V. V. Loi (Berlin/DE), T. Busche (Berlin, Bielefeld/DE) A. Sommer (Berlin/DE), J. Kalinowski (Bielefeld/DE) J. Bernhardt (Greifswald/DE), H. Antelmann (Berlin/DE)
10:15 MSV06	Deciphering antimicrobial drug combinations using high-throughput approaches <u>A. R. Brochado</u> , A. Typas (Würzburg/DE)
10:30 MSV07	Synthesis, uptake and excretion of ectoines in the alpha-proteobacteria <i>Hyphomonas neptunium</i> and <i>Novosphingobium</i> sp. LH128 <u>L. Czech</u> (Marburg/DE), S. H. J. Smits (Düsseldorf/DE), E. Bremer (Marburg/DE)
10:45 MSV08	Homeostasis of the <i>Escherichia coli</i> biosynthetic metabolome under diverse conditions <u>D. Rados</u> , S. Donati, M. Lempp, H. Link (Marburg/DE)

09:00–11:00 Short Lecture 21

- P3 Sensing and Signaling
Chairs Julia Frunzke (Jülich/DE), Ralf Heermann (Mainz/DE)
- 09:00 Cyclic nucleotides in Archaea: Cyclic di-AMP in the archaeon *Haloferax*
SeSiV01 *volcanii* and its putative role
 F. Braun, L. Thomalla, C. van der Does, T. Quax (Freiburg i. Br./DE)
 T. Allers (Nottingham/GB), V. Kaever (Hannover/DE)
 S.-V. Albers (Freiburg i. Br./DE)
- 09:15 The role of the c-di-GMP-specific phosphodiesterase NbdA in biofilm
SeSiV02 dispersal of *Pseudomonas aeruginosa*
 K. Gerbracht, M. Rüger, S. Zehner
 N. Frankenberg-Dinkel (Kaiserslautern/DE)
- 09:30 GGDEF-domain of PdeB governs its polar localization and mediates the
SeSiV03 interaction with the polar landmarkprotein HubP
 T. Rick (Gießen/DE), F. Rossmann (London/DE), D. Mrusek
 G. Bange (Marburg/DE), K. Thormann (Gießen/DE)
- 09:45 CyaC, a respiration linked and redox controlled AC of *Sinorhizobium meliloti*
SeSiV04 with a succinate dehydrogenase-like membrane anchor
 J. Wissig (Mainz/DE), J. Grischin, J. Schultz (Tübingen/DE)
 G. Unden (Mainz/DE)
- 10:00 Inter-kingdom-signaling by *Photorhabdus luminescens* - sensing eukaryotic
SeSiV05 hosts by PAS4-LuxR receptors
 J. Brehm (Mainz, Martinsried, München/DE), N. Neubacher
 H. B. Bode (Frankfurt a. M./DE), R. Heermann (Mainz/DE)
- 10:15 PII controls multiple nitrogen uptake systems in *Synechocystis* PCC 6803
SeSiV06 N. Neumann, B. Watzer, P. Spät, M. Koch, O. Hennrich (Tübingen/DE)
- 10:30 Ratiometric population sensing by the RapA-PhrA “quorum” sensing system
SeSiV07 in *Bacillus subtilis*
 H. Babel (Marburg, Heidelberg/DE)
 P. Naranjo (Marburg/DE, Quito/EC, Heidelberg/DE)
 S. Trauth (Marburg, Heidelberg/DE), S. Schulmeister (Heidelberg/DE)
 G. Malengo, V. Sourjik (Marburg/DE)
 I. Bischofs-Pfeifer (Marburg, Heidelberg/DE)

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10:45
SeSiV08 Modulation of virulence adaptation by the cytoplasmic membrane bound
phospholipase PlaF disclosed by proteomics
M. Caliskan (Jülich/DE), D. Waldera-Lupa, K. Stühler (Düsseldorf/DE)
F. Kovacic, K.-E. Jaeger (Jülich/DE)

09:00–11:00 Short Lecture 22

P4 Microbial Ecology
Chairs Jens Harder (Bremen/DE), Daniel Herlemann (Vehendi/EE)

09:00
MEV01 Abundance and diversity of Bacteria and Archaea within deep-sea
sediments along a Pacific transect from New Zealand to Alaska
M. Pohlner, J. Degenhardt (Oldenburg/DE)
B. Wemheuer (Sydney/AU), B. Schnetger
B. Engelen (Oldenburg/DE)

09:15
MEV02 Internal energy stores and secondary metabolites are physiological
peculiarities for bacteria prevailing in long-term enclosure experiments
D. Herlemann (Vehendi/EE, Rostock/DE), S. Markert (Greifswald/DE)
C. Meeske (Rostock/DE), A. Andersson (Stockholm/SE), C. Hentscher
F. Unfried, D. Becher (Greifswald/DE), K. Jürgens (Rostock/DE)
T. Schweder (Greifswald/DE)

09:30
MEV03 Naturally isolated ecosystems help unraveling the impact of chemo
diversity on microbial communities
L. Kroll, V. Brauer, A. Akbari, H. Müller, R. U. Meckenstock (Essen/DE)

09:45
MEV04 Uncultured *Cloacimonadaceae* are abundant syntrophic
propionate-oxidizing bacteria in anaerobic digestion
S. Dykstra, C. Gallert (Emden/DE)

10:00
MEV05 Antimicrobial screening and metabolomic profiling of the lichen *Usnea* from
Malaysia and the Philippines and its associated endolichenic fungi
K. A. Santiago (Bandar Sunway/MY), T. E. dela Cruz (Manila/PH)
R. Edrada-Ebel (Glasgow/GB), Y. L. Cheow
A. S. Y. Ting (Bandar Sunway/MY)

10:15
MEV06 *C. elegans* microbiome dynamics and the influence of predatory bacteria
J. Johnke, P. Dirksen, H. Schulenburg (Kiel/DE)

10:30
MEV07 Sorting phage-infected cells using direct-geneFISH and flow cytometry
J. D. Brüwer, N. Heinzmann, L. Zeugner, A. Grieb, R. Amann
B. M. Buchs (Bremen/DE)

10:45 The effect of smoking on the respiratory microbiom
 MEV08 S. Pfeiffer (Neuherberg, Freising/DE), C. Herzmann, K. Gaede
 S. Krauss-Etschmann, M. Schloter (Neuherberg, Freising, Borstel/DE)

09:00–11:00 Short Lecture 23

P5 Bacterial Cell Biology III/Large Protein Complexes
 Chairs Bernhard Eikmanns (Ulm/DE), Ute A. Hellmich (Mainz/DE)

09:00 Identification of a novel cell division protein in Gram-positive bacteria
 BC-LPV01 S. Wamp (Wernigerode/DE), J. Rismondo (Wernigerode/DE, London/GB)
 L. Möller (Berlin/DE), S. Halbedel (Wernigerode/DE)

09:15 Microindel mutations caused by intragenomic or horizontally acquired
 BC-LPV02 DANN single-strands
 K. Harms (Tromsø/NO)

09:30 *Piscirickettsia salmonis* – insights into the biology of an important fish
 BC-LPV03 pathogen through comparative genomics
 I. Schober, B. Bunk, T. Riedel, C. Spröer, J. Overmann (Braunschweig/DE)

09:45 Is growth and metabolism of *Prevotella bryantii* B₁₄ depending on short
 BC-LPV04 chain fatty acid supplementation?
 A. Trautmann, S. Deusch, J. Steuber, J. Seifert (Stuttgart/DE)

10:00 The structure of the archaellum machinery investigated by high-resolution
 BC-LPV05 cryoEM
 B. Daum (Exeter/GB)

10:15 Identification of new components of the Type IV pilus machine
 BC-LPV06 A. Treuner-Lange (Marburg/DE), Y.-W. Chang (Pasadena, TX/US)
 M. Herfurth, T. Glatter (Marburg/DE), G. Jensen (Pasadena, TX/US)
 L. Sjøgaard-Andersen (Marburg/DE)

10:30 Analysis of allosteric interactions in a multi-enzyme complex by ancestral
 BC-LPV07 sequence reconstruction
 M. Schupfner, K. Straub, R. Merkl, R. Sterner (Regensburg/DE)

10:45 Immunogold labelling of serial thin-sections for the high-resolution
 BC-LPV08 localization of bacterial proteins within single cells
 I. Petersen, R. Schlüter, K. Riedel, J. Pané-Farré (Greifswald/DE)

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11:30–11:45 VAAM Poster Awards

RW 1

11:45–13:15 Plenary Session 5

RW 1 Sensing and Signaling in Microorganisms
Chairs Nicole Frankenberg-Dinkel (Kaiserslautern/DE), Gottfried Uden (Mainz/DE)

11:45 c-di-AMP signaling in *Staphylococcus aureus*: Why Staph needs it & what
IL14 regulates it
 Angelika Gründling (London/GB)

12:15 Shaping up and Responding: Color Vision and Light-Dependent
IL15 Developmental Plasticity in Cyanobacteria
 Beronda Montgomery (East Lansing, MI/US)

12:45 Light and stress sensing in fungi
IL16 Reinhard Fischer (Karlsruhe/DE)

13:15–13:30 Closing Remarks

RW 1

14:45–17:00 Poster Session 1

Anaerobic Metabolism | AMP001–AMP039

- AMP001 Growth and metabolism of the rumen bacterium *Prevotella bryantii*
L. Schleicher, D. Stegmann, A. Trautmann, J. Breining, J. Seifert
 J. Steuber (Stuttgart/DE)
- AMP002 Purification of 2-naphthoate:CoA-Ligase, the second enzyme of the
 anaerobic naphthalene degradation pathway
Me. Arnold, I. Heker, R. U. Meckenstock (Essen/DE)
- AMP003 Heterologous production of 1,4-butanediol using the acetogen *Eubacterium*
limosum
M. Flaiz, F. R. Bengelsdorf, P. Dürre (Ulm/DE)
- AMP004 *Caprobacter fermentans* gen. nov., sp. nov., a new caproic acid producing
 bacterium
M. Flaiz, T. Baur, S. Stibitsky, S. Brahner (Ulm/DE)
 A. Poehlein (Göttingen, Ulm/DE), R. Daniel (Göttingen/DE)
F. R. Bengelsdorf (Ulm/DE)
- AMP005 Amino Acid Exchanges in the Membrane-Integral HybB Protein that
 Distinguish the H₂-Oxidizing from the pmf-Driven H₂-Evolving Function of
 Hydrogenase 2
D. Lubek, C. Pinske (Halle a. d. S./DE)
- AMP006 *laaF*, an unusual acyl-CoA dehydrogenase involved in anaerobic auxin
 metabolism
K. Schühle, J. Heider (Marburg/DE)
- AMP007 Investigating the RNF-complex and Its Impact on the Energy Metabolism of
 the Acetogen *Clostridium ljungdahlii*
C.-M. Klask, B. Molitor, L. T. Angenent (Tübingen/DE)
- AMP008 Laughing gas respiration of *Wolinella succinogenes*: composition and
 function of the electron transport chain
S. Hein, V. Mijić, S. Witt, C. Werner, J. Simon (Darmstadt/DE)
- AMP009 Laughing gas production by the nitrate-ammonifying bacterium *Wolinella*
succinogenes
V. Mijić (Darmstadt/DE), D. Mania, L. Bakken, Å. Frostegård (Ås/NO)
 J. Simon (Darmstadt/DE)

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- AMP010 First steps in anaerobic phenanthrene degradation
I. Kaplieva-Dudek, R. U. Meckenstock (Essen/DE)
- AMP011 Probing potential mechanisms bypassing the energy-converting methyltransferase MTR in *Methanosarcina acetivorans*
C. Schöne, M. Rother (Dresden/DE)
- AMP012 Enantiospecific Hydroxylation of Ethylbenzene and related Compounds by Ethylbenzene Dehydrogenase from *Aromatoleum aromaticum* EbN1
D. Hege, J. Heider (Marburg/DE)
- AMP013 Biodiversity of bacterial menaquinone methyltransferases, a novel family of class C radical SAM enzymes
D. Wilkens, S. Hein, J. Simon (Darmstadt/DE)
- AMP014 Analysis and characterization of mutated variants of benzylsuccinate synthase (BSS) for advanced degradation of BTEX compounds
A. Alhaj Zein, J. Heider (Marburg/DE)
- AMP015 Characterization of *Buckelia termitida* (gen. nov., sp. nov.) and taxonomic revision of the *Clostridium sphenoides* group (*Clostridiales*; *Lachnospiraceae*)
S. Griesel, M. A. Gonzalez Vera, K. Meuser, T. Heimerl (Marburg/DE)
R. Radek (Berlin/DE), A. Brune (Marburg/DE)
- AMP016 Automated high-resolution determination of anaerobic atmospheric trace gas (H₂, NO, N₂O, CO₂, CH₄) production kinetics in small-scale incubations
S. Henjes, M. A. Horn (Hannover/DE)
- AMP017 Abstract has been withdrawn.
- AMP018 Biochemistry of mannitol-1-phosphate dehydrogenase and acetate production by *Thermoanaerobacter kivui* during mannitol metabolism
J. Moon, N. Merz, M. Basen (Frankfurt a. M./DE)
- AMP019 Methanogenic and Acidogenic Communities Reveal a Trade-off between n-Caproate Production and Competitive Pathways in H₂/CO₂-Based Carboxylate Chain Elongation
F. C. Freire Baleeiro, H. Sträuber, S. Kleinsteuber (Leipzig/DE)

- AMP020 Structure and Function of an ATP-dependent Benzoyl-CoA Reductase
J. Fuchs, O. Tiedt (Freiburg i. Br./DE), U. Demmer
 U. Ermler (Frankfurt a. M./DE), M. Boll (Freiburg i. Br./DE)
- AMP021 Investigation of the corrosion potential by oral microorganisms related to
 periodontitis and peri-implantitis
S. Kleinbub, B. A. An, H. Gabriele, Ö. Özcan, M. Schenderlein
 H. Dommisch (Berlin/DE), D. Wagner (Potsdam/DE), A. Koerdts (Berlin/DE)
- AMP022 Physiological function of citrate synthase isoenzymes in *Desulfurella*
acetivorans
E. Pettinato, L. Steffens, W. Schulz, A. Mall, I. A. Berg (Münster/DE)
- AMP023 Effect of CO or syngas overpressure on growth and product formation of
Clostridium ljungdahlii
A. Infantes, A. Neumann (Karlsruhe/DE)
- AMP024 Itaconate fermentation in *Pelosinus* spp.
W. Schulz, I. Plugge, I. A. Berg (Münster/DE)
- AMP025 Genetic and physiological studies of a *Thermoanaerobacter kivui* mutant
 lacking *hdcR*
S. Jain, V. Müller, M. Basen (Frankfurt a. M./DE)
- AMP026 Structural basis of extremely low potential hydride transfer during
 enzymatic naphthoyl-ring reduction
M. Willstein, M. Boll, J. Fuchs, S. Estelmann, M. Müller, S. Lüdeke, J. Haas
 S. Ferlaino (Freiburg i. Br./DE), D. Bechtel, A. Pierik, Christi. Müller
 V. Schünemann, L. Heimann (Kaiserslautern/DE), U. Demmer
 U. Ermler (Frankfurt a. M./DE), M. Ullmann (Bayreuth/DE)
- AMP027 Hydrogen cycling is essential for growth of the acetogen *Acetobacterium*
woodii
A. Wiechmann, S. Ciurus, F. Oswald, V. Müller (Frankfurt a. M./DE)
- AMP028 Modified degradation of ethanol and methanol in the thermophilic
 anaerobe *Thermacetogenium phaeum*
A. Keller, B. Schink, N. Müller (Konstanz/DE)
- AMP029 Pyrite formation from FeS and H₂S is mediated through a novel microbial
 redox activity
 J. Thiel (Konstanz/DE), J. Byrne, A. Kappler (Tübingen/DE)
 M. Pester (Konstanz, Braunschweig/DE)

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- AMP030 On the diversity of 5,10-methylene-THF-reductases in acetogenic bacteria
C. Öpinger, F. Kremp, V. Müller (Frankfurt a. M./DE)
- AMP031 ATP synthesis in Phosphite Oxidation
Z. Mao, J. Frey, B. Schink (Konstanz/DE)
- AMP032 Energy conservation in the rumen bacterium *Pseudobutyrvibrio ruminis*
A. Katsyv, M. C. Schoelmerich, J. Dönig, V. Müller (Frankfurt a. M./DE)
- AMP033 Bacterial microcompartments from acetogenic bacteria *Acetobacterium woodii*
N. Pal Chowdhury, V. Müller (Frankfurt a. M./DE)
- AMP034 Tartrate is a nutrient during early stages of *Salmonella Typhimurium* infection
L. Spiga, M. Winter (Dallas, TX/US)
T. Furtado de Carvalho (Belo Horizonte/BR), E. Hughes, R. Chanin
W. Zhu (Dallas, TX/US), F. Faber (Würzburg/DE)
R. Santos (Belo Horizonte/BR), H. Andrews-Polymenis (Bryan, TX/US)
M. McClelland (Irvine, CA/US), S. Winter (Dallas, TX/US)
- AMP035 The monofunctional cobalamin biosynthesis enzyme precorrin-3B synthase (CobZRR) is essential for anaerobic photosynthesis in *Rhodospirillum rubrum* but not for aerobic, dark metabolism
R. Ghosh, E. Roth (Stuttgart/DE), K. Abou-Aisha, R. Saegesser (Cairo/EG)
C. Autenrieth (Stuttgart/DE)
- AMP036 Increasing the electron transfer in *Shewanella oneidensis* MR-1 using a tailored periplasmic protein composition
V. Palma Delgado (Karlsruhe/DE), C. Paquete (Lisbon/PT)
J. Gescher (Karlsruhe/DE)
- AMP037 Gene knock-outs and their effects on product formation of the butanol producer *Clostridium saccharoperbutylacetonicum*
S. Nick, T. Baur (Ulm/DE), A. Baker, H. Smith, E. Jenkinson (Abingdon/GB)
B. Schiel-Bengelsdorf, F. R. Bengelsdorf, P. Dürre (Ulm/DE)
- AMP038 Studies on the reaction mechanism of corrinoid-reducing metallo-ATPases
H. Dürichen, S. Postel, G. Diekert, S. Studenik (Jena/DE)
- AMP039 Fermentation of Oxygen Containing Syngas
T. Mohr, A. Infantes, L. Biebinger, A. Neumann (Karlsruhe/DE)

Bacterial Cell Biology | BCP040–BCP061

- BCP040 Biochemical basis for metal sequestration by antimicrobial S100 proteins from human and pig
A. Wartmann, C. Toulouse, S. Knogl-Tritschler, Gü. Fritz
J. Steuber (Stuttgart/DE)
- BCP041 Trapping and proteomic discovery of cellular substrates of the ClpXP protease involved in bacteriochlorophyll biosynthesis in *Dinoroseobacter shibae*
A. Rommerskirch, D. Jahn, E. Härtig (Braunschweig/DE)
- BCP042 Glycogen serves as the main carbon source for PHB synthesis during nitrogen starvation in the unicellular cyanobacterium *Synechocystis* 6803
M. Koch, S. Doello (Tübingen/DE), K. Gutekunst (Kiel/DE)
K. Forchhammer (Tübingen/DE)
- BCP043 Effects of eukaryotic-type serine/threonine protein kinases (eSTPK) on Differentiation and Spore Wall Synthesis of *Streptomyces coelicolor*
B. Vollmer, N. Ladwig, M. Franz-Wachtel, B. Macek, W. Wohlleben
G. Muth (Tübingen/DE)
- BCP044 Microscopy-based screen for novel inhibitors of bacterial cell division
C. Matos de Opitz, P. Sass (Tübingen/DE)
- BCP045 Function of a novel SPFH-domain-containing protein in *Bacillus subtilis*
A. Savietto, M. Bramkamp (München/DE)
- BCP046 Characterization of a predicted SepF homolog in *Haloferax volcanii*
P. Nußbaum, S.-V. Albers (Freiburg i. Br./DE)
- BCP047 Polar localisation dynamics of the SRP-GTPase FlhF in *Shewanella putrefaciens*
J. C. Hook, K. Thormann (Gießen/DE)
- BCP049 The *Bacillus subtilis* competence machinery contains a moonlighting enzyme
P. L. Graumann, M. Burghard, S. Altenburger (Marburg/DE)

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- BCP050 SMTracker: a tool for quantitative analysis, exploration and visualization of single-molecule tracking data reveals highly dynamic binding of *B. subtilis* global repressor AbrB throughout the genome
P. L. Graumann, T. Rösch, L. Oviedo Bocanegra, Ge. Fritz, S. Dersch
B. Mayer (Marburg/DE)
- BCP051 The Function of the Polyphosphate-associated CHAD Protein PptA of *Ralstonia eutropha*
H. Rosigkeit, D. Jendrossek (Stuttgart/DE)
- BCP052 Analysis of the wall teichoic acid composition in *Staphylococcus aureus* strains with intermediate susceptibility to vancomycin
M. Hort (Bonn/DE), U. Bertsche (Stuttgart/DE), A.-S. Schrötter
G. Bierbaum (Bonn/DE)
- BCP053 Two novel small proteins are important for cell elongation and lysis during induction of phage lambda in *Shewanella oneidensis* MR-1
V. Kreiling, M. Kreienbaum, I. Oberheim, K. Thormann (Gießen/DE)
- BCP055 BacStalk: a comprehensive and interactive image analysis software tool for bacterial cell biology
R. Hartmann, M. van Teeseling, M. Thanbichler, K. Drescher (Marburg/DE)
- BCP057 Investigation of PHB granules surface for an increased PHB yield in *Synechocystis* sp. PCC 6803
T. Orthwein, M. Koch, K. Forchhammer (Tübingen/DE)
- BCP058 A new protein crucial for microdomain stability
L. Kricks, D. Lopez (Madrid/ES)
- BCP059 Functional characterization of the chlamydial Clp protease complex
S. Pan (Tübingen/DE), B. Henrichfreise (Bonn/DE), H. Brötz-Oesterhelt
P. Sass (Tübingen/DE)
- BCP060 Deregulation of bacterial cytokinesis by antibiotic acyldepsipeptides
N. Silber, Christi. Mayer, H. Brötz-Oesterhelt, P. Sass (Tübingen/DE)

- BCP061 Adding a new function to the cyanobacterial inorganic carbon sensing protein SbtB: ATPase activity
K. Selim, M. Hartmann, K. Forchhammer (Tübingen/DE)

Biodegradation | BDP062–BDP071

- BDP062 Application of endophytic actinobacteria to improve phytoremediation of cadmium polluted soils in the UAE
K. El-Tarabily, S. Abu Qamar, S. Al Raish, M. Alblooshi
A. Alblooshi (Al-Ain/AE)
- BDP063 Anaerobic degradation of polycyclic aromatic hydrocarbons (PAHs) by the sulfate-reducing bacterial enrichment culture TRIP
I. Kraiselburd, N. Kotta, F. Kaschani (Essen/DE), T. Bröls (Paris/FR)
M. Kaiser, R. U. Meckenstock (Essen/DE)
- BDP065 Study on the impact of common used rubber additives on the microbial and enzymatic degradation of poly(*cis*-1,4-isoprene)
A.-L. Altenhoff, J. de Witt, A. Steinbüchel (Münster/DE)
- BDP066 Characterization of LaoABCR as a novel system for the oxidation of mid- to long-chain alcohols in *Pseudomonas aeruginosa*
G. Panasia, S. L. Drees, S. Oetermann, B. Philipp (Münster/DE)
- BDP067 Isolation an ω -transaminase from Soil Microorganisms in Iran
N. Gord Noshahri (Tehran/IR), J. Rudat, U. Engel, C. Syldatk (Karlsruhe/DE)
J. Fooladi (Tehran/IR)
- BDP068 Isolation of thermostable alpha-Amylase from soil microorganisms
N. Gord Noshahri (Mashhad/IR), M. Zare Mehrjerdi (Shirvan/IR)
A. Sharifi Sharifabad, M. Shaban (Mashhad/IR)
- BDP069 Isolation and identification of novel polyethylene-degrading bacteria from plastic-polluted sites in Iran
N. Gord Noshahri, Z. Soleimani Dorcheh, G. Noshahri, S. Gharavi, M. Soudi
Z. Moosavinejad, F. Hesami Zokai (Tehran/IR)
- BDP070 Evaluation of Bacterial Diversity from Metagenome Involved in The Biodegradation of Polyethylene-based Plastics
N. Gord Noshahri, F. Hesami Zokai, G. Noshahri, S. Gharavi, E. Asgarani
M. Soudi, M. Zarrabi, Z. Soleimani Dorcheh (Tehran/IR)

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- BDP071 Enhanced biodegradation of low density polyethylene by thermostable fungi isolated from plastic polluted sites in Iran
N. Gord Noshahri, Z. Soleimani Dorcheh, G. Noshahri, S. Gharavi, M. Soudi Z. Moosavinejad (Tehran/IR)

Biotechnology | BTP072–BTP140

- BTP072 Metabolic flexibility of Pseudomonads – *Curse or blessing?*
S. Nies, B. E. Ebert, L. M. Blank (Aachen/DE)
- BTP073 Electrocatalytic Biosynthesis using a Bucky Paper Functionalized by [Cp*Rh(bpy)Cl]⁺ and a renewable Enzymatic Layer
L. Zhang, M. Etienne, N. Vilà, T. X. H. Le (Villers-lès-Nancy/FR)
G.-W. Kohring (Saarbrücken/DE), A. Walcarius (Villers-lès-Nancy/FR)
- BTP074 Assessment of the flocculating potentials of *Alcaligenes faecalis* Isolated from the Estuary of Sodwana Bay
A. M. Ugbenyen (Auchi/NG), A. K. Basson (Empageni/ZA)
- BTP076 Effect of *Trichoderma reesei* degraded date pits on the growth performance and gut bacterial flora in broilers chickens
S. Alyileili, K. El-Tarabily, W. Ibrahim (Al-Ain/AE)
- BTP077 Fermentative production of N-methylglutamate from glycerol by recombinant *Pseudomonas putida*
T. Walter, M. Mindt, J. M. Risse, V. F. Wendisch (Bielefeld/DE)
- BTP078 Optimizing the exploitation of unconventional secretion in *Ustilago maydis* by tackling proteolysis and establishing new carriers.
M. Philipp, M. Terfrüchte, K. Hußnätter, M. Reindl, M. Feldbrügge K. Schipper (Düsseldorf/DE)
- BTP079 Synthesis of hydroxytriazenes by a chemo-enzymatic cascade
D. Tischler, A. Gomez Baraibar (Bochum/DE), M. Mehnert T. Heine (Freiberg/DE)
- BTP080 Characterization of the ene-reductase FOYE-1 and upscaling reaction with (*R*)-carvone
E. Gädke, D. Eggerichs, D. Tischler (Bochum/DE)
- BTP081 Astaxanthin production by *Corynebacterium glutamicum* and the establishment of a biosensor system
N. Henke, P. Peters-Wendisch, V. F. Wendisch (Bielefeld/DE)

- BTP082 *Aspergillus ochraceus* as a producer of proteases with protein C and factor X activator activity
A. Osmolovski, A. Orekhova (Moscow/RU)
- BTP083 Characterization of two novel glutathione S-transferases – styrene degradation in an actinobacterium
A. C. Lienkamp (Bochum/DE), T. Heine (Freiberg/DE)
D. Tischler (Bochum/DE)
- BTP084 Development of an enzyme cascade process for the production of chiral β -amino acids
U. Engel, C. Lohmann (Karlsruhe/DE)
- BTP085 Study of anti-inflammatory activity of Tinocrisposide by inhibiting PGE 2 production in Lipopolysaccharides-stimulated raw 264.7 cells
A. Z. Adnan, R. Ruslan, I. R. Suji, H. A. Ali (Padang/ID)
- BTP086 Self-immobilizing Biocatalysts for compartmentalised Reaction Cascades
P. Bitterwolf, S. Gallus, T. Peschke, K. S. Rabe
C. M. Niemeyer (Karlsruhe/DE)
- BTP087 The impact of $\text{CO}_2/\text{HCO}_3^-$ pool on glucose tolerance of PDHC-deficient *Corynebacterium glutamicum* strains
A. Krüger, J. Wiechert, J. Frunzke (Jülich/DE)
- BTP088 Small phagic protein Cg1914 triggers SOS-dependent CGP3 induction in *Corynebacterium glutamicum*
L. Kever, M. Hünnefeld, J. Frunzke (Jülich/DE)
- BTP089 Production and characterization of 5-hydroxylated synthetic ectoine derivatives
J. Brauner, E. A. Galinski (Bornheim/DE), C. Ruprecht (Hamburg/DE)
C. Molitor, A. Meffert (Bornheim/DE)
- BTP090 Novel penicillin G acylases from Gram-positive bacteria showing altered thermostability and mechanical properties
J. Mayer, J. Pippel, G. Günther, M. Kubiak, Ca. Müller, T. Knuuti, C. Schilde
W. Blankenfeldt, R. Biedendieck (Braunschweig/DE)
- BTP091 Recombinant production and purification of Envelope protein Domain III of Zika virus (EDIII) fused with the solubility tag Fh8
S. Carneiro Araujo, L. Ramos Pereira, F. Grabarz, D. Borges de Figueiredo
L. Zane, L. C. Ferreira de Souza, V. Maimoni Gonçalves (São Paulo/BR)

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- BTP092 Improving the biotechnological production of EMCP derived chiral compounds from methanol
L. Pöschel, M. Buchhaupt (Frankfurt a. M./DE)
- BTP093 Analysis of global mRNA decay in *Gluconobacter oxydans* 621H
A. Kranz, A. Steinmann, U. Degner, M. Bott, T. Polen (Jülich/DE)
- BTP094 Machine-assisted cultivation and analysis of biofilm in microfluidic bioreactors
M. Celikic (Eggenstein-Leopoldshafen/DE), E. Klein (Karlsruhe/DE)
S. Hansen (Eggenstein-Leopoldshafen/DE), H. Horn
J. Gescher (Karlsruhe/DE), C. M. Niemeyer (Eggenstein-Leopoldshafen/DE)
- BTP095 Metabolic engineering of *Corynebacterium glutamicum* for the production of Coenzyme Q10
A. Burgardt, P. Peters-Wendisch (Bielefeld/DE), J.-H. Lee (Busan/KR)
V. F. Wendisch (Bielefeld/DE)
- BTP096 Production of acetone using recombinant *Acetobacterium woodii* strains
T. Schoch, C. Erz, S. Hoffmeister, F. R. Bengelsdorf, P. Dürre (Ulm/DE)
- BTP097 Production of the low-caloric sweetener 5-Ketofructose in *Gluconobacter species*
J. Hoffmann, U. Deppenmeier (Bonn/DE)
- BTP098 Halophilic Bacteria for Biocatalysis
C. Ohle, G. Alfaro-Espinoza, H.-J. Kunte (Berlin/DE)
- BTP099 Identifying phenotype-related genetic hot spots in chemically mutagenized cultures by automated high-throughput whole genome sequencing analysis
M. Dal Molin, P. Baumann, S. Binder, J. Marienhagen (Jülich/DE)
- BTP100 Functionalization of bacterial nanoparticles by genetic engineering and surface display of ligands and adapter molecules
M. Klein, D. Schöler (Bayreuth/DE)
- BTP101 Microbial biosynthesis of methane in a trickle bed reactor for power-to-gas applications
A. Böllmann, R. Stöckl, L. Kalb, M. Thema (Regensburg/DE)
T. Weidlich (Erlangen-Nuremberg, Nuremberg/DE), H. Huber, M. Sterner
A. Bellack (Regensburg/DE)

- BTP102 Engineering of transcriptional biosensors for accelerated strain development
P. Baumann, M. Dal Molin, L. Flachbart, C. Sonntag
J. Marienhagen (Jülich/DE)
- BTP103 Engineering of dioxygenase loops for enhanced oxyfunctionalization reactions
P. Heinemann, J. Klenk, A. Hunold, B. Hauer (Stuttgart/DE)
- BTP104 Inhibition of bacterial biofilm formation by natural compounds of entomopathogenic bacteria
A. Gazanis (Mainz, Planegg-Martinsried/DE)
A. von Strempel (Planegg-Martinsried, Mainz/DE)
H. B. Bode (Frankfurt a. M./DE), R. Heermann (Mainz/DE)
- BTP105 Characterization of two novel DyP-type peroxidases from *Streptomyces chartreusis*
N. Gibas, A. Yayci, E. Hofmann, J. Bandow (Bochum/DE)
- BTP106 DNA extraction efficiencies of decreased sample material using the DNeasy PowerSoil Pro kit
S. Thiele, D. O'Neill (Hilden/DE)
- BTP107 DNAzymes as catalysts for L-tyrosine and amyloid beta oxidation
T. Köhler, J. Thiele (Dresden/DE)
- BTP109 Intracellular pHluorin to investigate activity of bacteriocins against *Listeria monocytogenes* – analysis on the single cell level and screening for novel producer strains
P. Crauwels, D. Weixler, Le. Schäfer, K. Aßfalg, S. Goral, J. Weizenegger
G. M. Seibold, C. U. Riedel (Ulm/DE)
- BTP110 Investigation of monoterpene resistance mechanisms in *Pseudomonas putida* GS1
F. M. Schempp, K. Hofmann, J. Mi, F. Kirchner, H. Schewe, J. Schrader
M. Buchhaupt (Frankfurt a. M./DE)
- BTP111 A biological treatment model inoculated with a novel sulfate- and arsenate-reducing bacterium treating artificial mining wastewater
H. Nguyen Thi, H. Dinh Thuy, P. Nguyen Minh (Hanoi/VN)
- BTP112 Systematic characterization of efficient low salt ectoine production in *E. coli*
L. Bethlehem, K. D. Moritz, E. A. Galinski (Bonn/DE)

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- BTP113 Electrotrophic performance within the genus *Kyrpidia*
J. Lapp, J. Reiner, T. Jung, J. Gescher (Karlsruhe/DE)
- BTP114 Polyphosphate analytics for *Saccharomyces cerevisiae* utilizing a new enzymatic assay
J. J. Christ, L. M. Blank (Aachen/DE)
- BTP115 Recombinant pneumococcal fusion protein PspA-PdT: importance of the molecular linker for the stability and role of PspA for increasing PdT solubility
L. Zane, M. Cazelato Pires, M. Cabette Crivellenti, S. Kraschowetz
S. Carneiro Araujo, D. Borges de Figueiredo
V. Maimoni Gonçalves (São Paulo/BR)
- BTP116 Genetically modified *G. oxydans* strains for the construction of specialized biocatalysts
S. Gruber, W. Liebl, A. Ehrenreich (Freising/DE)
- BTP117 Genetic analysis of cellulose synthesis in acetic acid bacteria
M. Bimmer, W. Liebl, A. Ehrenreich (Freising/DE)
- BTP118 Unveiling the biotechnological potential of Recirculating Aquaculture Systems through metagenomics
P. Pérez-García, J. Hüpeden (Hamburg/DE), S. Güllert (Hamburg, Kiel/DE)
E. Spieck, J. Chow, W. R. Streit (Hamburg/DE)
- BTP119 Improving 1-butanol production by pathway compartmentalization in yeast
J. F. Garcés Daza, E. Boles (Frankfurt a. M./DE)
- BTP120 The panacea to food insecurity starts with rhizobia, mycorrhizal fungi and soybean in a controlled environment
N. O. Igiehon, O. O. Babalola (Mafikeng/ZA)
- BTP121 Whole cell catalysis for hydrogen storage and biohydrogen production using a thermophilic acetogen
F. M. Schwarz, V. Müller (Frankfurt a. M./DE)
- BTP122 Multiplexed spectroscopic quantification of *P. aeruginosa* secondary metabolites
S. L. Drees, S. Fetzner (Münster/DE)

- BTP123 Electrode-assisted fermentation of platform chemicals in *Escherichia coli* and *Shewanella oneidensis*
M. Edel, L.-A. Philipp, T. Arinda, S. Beblawy, T. Kabbeck
J. Gescher (Karlsruhe/DE)
- BTP124 Interplay between central metabolism and osmoprotection in *Halomonas elongata*
K. Hobmeier, K. Pflüger-Grau, A. Kremling, A. Marin-Sanguino (Garching/DE)
- BTP125 Hetero- and autotrophically driven C=C bond reduction in recombinant *C. necator*
L. Assil-Companioni, S. Schmidt, P. Heidinger, H. Schwab
R. Kourist (Graz/AT)
- BTP126 A light-driven enzyme cascade reaction for the synthesis of lactones
H. Büchschenschütz (Graz/AT), V. Jurka, J. Spasic (Porto/PT), S. Schmidt
R. Kourist (Graz/AT)
- BTP127 Expression strategies for cyanobacterial biotransformations
K. Bauer, H. Büchschenschütz, G. Barone (Graz/AT)
N. Dyczmons-Nowaczyk (Bochum/DE), S. Schmidt (Graz/AT)
M. M. Nowaczyk (Bochum/DE), R. Kourist (Graz/AT)
- BTP128 Esterase profiling of new isolated yeasts in Morocco for prospective biotechnological applications
L. El Aamri (Meknes/MA, Messina/IT), F. Scordino, O. Romeo (Messina/IT)
M. Hafidi (Meknes/MA)
- BTP129 Streamlined *Pseudomonas taiwanensis* VLB120 chassis strains with improved bioprocess features
B. Wynands (Jülich, Aachen/DE), L. M. Blank (Aachen/DE)
N. Wierckx (Jülich, Aachen/DE)
- BTP130 Studies on the Importance of Leader Sequence in the Expression and Secretion of Recombinant Uricase in *Pichia pastoris*
S. Tamimi, H. Moghimi, S. Asad, S. M. M. Dastgheib, K. Alishah (Tehran/IR)
- BTP131 Screening, Characterization and Biotechnological Use of Decarbamoylizing Enzymes
C. Lohmann, U. Engel (Karlsruhe/DE)

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- BTP132 Production of phenylalanine-derived aromatics utilizing a streamlined *Pseudomonas taiwanensis* chassis
M. Otto (Jülich, Aachen/DE), B. Wynands (Jülich/DE)
L. M. Blank (Aachen/DE), N. Wierckx (Jülich/DE)
- BTP133 Comparison of the Cytosolic and Secreted Expression of Recombinant Urate oxidase in *Pichia pastoris*
R. Khaleghi, S. Asad, K. Alishah (Tehran/IR)
- BTP134 Enhanced itaconic acid production in *Ustilago cynodontis* with Metabolic and Morphologic Engineering
H. Hoseinpour Tehrani, L. M. Blank (Aachen/DE)
N. Wierckx (Aachen, Jülich/DE)
- BTP135 Identification and extraction of L-asparaginases through large-scale screening of Caspian Sea metagenomics data
M. Sobat (Tehran/IR), M. Mehrshad (Uppsala/DE), S. Asad
K. Alishah (Tehran/IR)
- BTP136 Utilization of cyanobacterial TCA cycles for the production of trans-4-hydroxy-L-proline
F. Brandenburg, E. Theodosiou, C. Köster, S. Klähn, A. Schmid
J. Krömer (Leipzig/DE)
- BTP137 BioKat – Biocatalysts in bioreactors: Functional microbial networks in semi-continuous operated biogas reactors
K. Willenbücher (Potsdam/DE), M. Conrady (Berlin/DE)
D. Benndorf (Magdeburg/DE), B. Miltz (Potsdam/DE), P. Ramm (Berlin/DE)
A. Schlüter (Bielefeld/DE), M. Klocke (Potsdam/DE)
- BTP138 Single Cell Oil Downstream Processing Optimization of a Newly Isolated Oleaginous Yeast *Saitozyma podzolica* DSM 27192
O. Gorte, R. Hollenbach, K. Ochsenreither (Karlsruhe/DE)
- BTP139 Monitoring of Enrichments Cultures for Acetogens by 16S rRNA Gene Analyses
K. Funkner, Do. Schneider, R. Daniel, A. Poehlein (Göttingen/DE)
- BTP140 Can we optimize cellulase production by using not common fungal strains?
M. Schomber (Leipzig/DE)

Environmental Microbiology | EMP141–EMP185

- EMP141 Diversity of Myxomycetes in Typhoon Prone Areas: a case study in Beach and Inland Forests of Aurora and Quezon Province, Philippines
E. Cabutaje, M. Pecundo, T. E. dela Cruz (Manila/PH)
- EMP142 Grassland Ecosystem in Lahar-Areas as Habitat for Slime Molds: Assessment of Myxomycete Diversity in Mayon, Pinatubo and Taal Volcanoes
V. J. Mapalo, T. E. dela Cruz (Manila/PH)
- EMP143 The use of bacteriophages to control *Legionella pneumophila* in environmental water samples in the UAE
N. Al-Kaabi, K. El-Tarabily, A. Al Khajeh (Al-Ain/AE)
- EMP144 Biological efficiency of natural substances aqueous extract (*Cassia nigricans*, *Parkia biglobosa*, *Capsicum annum*, *Cleome viscosa*) against *Spodoptera frugiperda* on corn production and their effects on a ferruginous soil microorganisms, in Burkina Faso
K. Georges (Bobo-Dioulasso/BF)
- EMP145 Background bioaerosol investigations in rural environments
I. Laufer, N. Heubach, D. Pöther (Berlin/DE), H. Kühne (Radebeul/DE)
U. Jäckel (Berlin/DE)
- EMP146 Electronic waste (E-waste) dumpsites in Nigeria present a potential reservoir of metal tolerant and antibiotic resistant *Escherichia coli* *O. Ikhimiukor* (Leipzig/DE, Ibadan/NG, Pretoria/ZA)
R. Adeleke (Pretoria/ZA), O. Adelowo (Ibadan/NG), J. Müller (Leipzig/DE)
- EMP147 The power of power: Electric Field Effects on Bacterial Deposition and Transport in Porous Media
Y. Shan, L. Y. Wick, H. Harms (Leipzig/DE)
- EMP148 Metagenomic analysis of microbial communities in fern (*Dicranopteris linearis*) and relations to nitrogen fixation
M. Nguyen Hong, H. Dinh Thuy, N. Mai Thi, M. Nguyen Ngoc
P. Nguyen Minh (Hanoi/VN)
- EMP149 Microscale 2D-mapping of pH in the mycosphere
B.-J. Xiong, C. Dusny, K. Lindstaedt, L. Y. Wick (Leipzig/DE)
- EMP150 The lichen microbiome and its role in adaptation to climate change
M. Grimm, J. Bernhardt, K. Riedel (Greifswald/DE)

- EMP151 Accessing the uncultivated marine microbial biodiversity and its novel biomolecules
M. K. Peters, I. Krohn-Molt, W. R. Streit (Hamburg/DE)
- EMP152 Characterization of *Rhodococcus qingshengii* and *Exiguobacterium* sp. in terms of plant growth promotion and healthy human nutrition
T. Kuhl (Neuherberg/DE)
- EMP153 Discovery of lipid-degrading enzymes through functional metaproteomics
D. Sander, Y. Yu, P. Sukul, S. Heinrich, F. Schulz, L. I. Leichert (Bochum/DE)
- EMP154 „*Candidatus* Thermanerobacter thiotrophicus“ – a non-phototrophic member of the *Bacteroidetes/Chlorobi* with dissimilatory sulfur metabolism in hot spring mat communities
V. Thiel (Hachioji/JP, Philadelphia, PA/US)
A. Garcia Costas (Pueblo, CO, Philadelphia, PA/US)
N. W. Fortney (Madison, WI/US)
J. N. Martinez (Hachioji/JP, Negros Occidental/PH)
M. Tank (Hachioji/JP, Philadelphia, PA/US), E. E. Roden (Madison, WI/US)
E. S. Boyd, D. M. Ward (Bozeman, MT/US), S. Hanada (Hachioji/JP)
D. A. Bryant (Philadelphia, PA, Bozeman, MT/US)
- EMP155 Vanadium-dependent haloperoxidase of the marine γ -proteobacterium *Microbulbifer* sp. HZ11 brominates antibiotic alkylquinolones
N. H. Ritzmann, S. Ernst, S. L. Drees (Münster/DE)
U. Hennecke (Münster/DE, Brüssel/BE), S. Fetzner (Münster/DE)
- EMP157 A sulfur oxygenase from the haloalkaliphilic bacterium *Thioalkalivibrio paradoxus* with atypically low reductase activity
P. Rühl (Darmstadt/DE), F. Folgosa, M. Teixeira (Oeiras/PT)
A. Klingl (München/DE), C. Frazão (Oeiras/PT), A. Kletzin (Darmstadt/DE)
- EMP158 The functional relevance of microbe-plant-insect interaction in a cereal crop system
S. P. Klink, M. Rothballer (Neuherberg/DE)

- EMP159 Microbial-mediated soil formation in maritime Antarctica under simulated environmental conditions
P. Krauze (Potsdam/DE), L. A. Meier, T. Scholten, P. Kühn (Tübingen/DE)
 C. W. Mueller (Freising/DE), D. Wagner (Potsdam/DE)
- EMP160 Deciphering bacterial and fungal endophyte communities in leaves of two maple trees with green islands
F. Wemheuer (Sydney/AU, Göttingen/DE), B. Wemheuer (Sydney/AU)
 R. Daniel, S. Vidal (Göttingen/DE)
- EMP161 Groundwater cable bacteria conserve energy by sulphur disproportionation
H. Müller (Essen/DE), S. Marozava (München/DE), A. J. Probst
 R. U. Meckenstock (Essen/DE)
- EMP162 Metaproteomic analyses of Pacific Ocean deep sea sediments
L. Wöhlbrand, J. Kalvelage, V. Schnaars, R. Rabus (Oldenburg/DE)
- EMP163 Mycelium-like networks allow bacteria to overcome zones of elevated toxicity
C. Papendorf, T. Mainka, A. Worrich, T. Banitz, L. Y. Wick (Leipzig/DE)
- EMP164 The spectacles microbiota - Cultivation-independent analyses using 16S rRNA gene sequencing
B. Fritz, S. Weis (Villingen-Schwenningen/DE), S. Wahl
 F. Ziemssen (Tübingen/DE), M. Egert (Villingen-Schwenningen/DE)
- EMP165 Effects of bacterial dispersal on biomass distribution and activity in spatially disturbed synthetic ecosystems
T. Mainka, A. Worrich, T. Banitz, L. Y. Wick (Leipzig/DE)
- EMP166 The impact of bacterial activity on decay and fossilization of arthropods
K. Janssen, B. Mähler, G. Bierbaum, J. Rust (Bonn/DE)
- EMP167 Quantifying Interactions of Phages with Non-Host Bacteria
X. You, A. Chatzinotas, H. Harms, L. Y. Wick (Leipzig/DE)
- EMP168 The Hells Bells from Yucatán – Unique speleothems that grow through microbially induced calcite precipitation?
K. Leberecht (Karlsruhe, Eggenstein-Leopoldshafen/DE), S. Ritter, L. Klose
 W. Stinnesbeck, M. Isenbeck-Schröter (Heidelberg/DE)
 J. Gescher (Karlsruhe, Eggenstein-Leopoldshafen/DE)

POSTER SESSION 1 | MONDAY, 18 MARCH

- EMP169 Wind-driven emission of *Enterococcus faecium* from agricultural soil fertilized with poultry manure
N. Thiel, V. Junker (Braunschweig/DE), S. Münch (Müncheberg/DE)
P. Siller (Berlin/DE), O. Biniash (Potsdam/DE), M. Faust
K. Schepanski (Leipzig/DE), T. Amon (Berlin, Potsdam/DE)
U. Rösler (Berlin/DE), R. Funk (Müncheberg/DE)
U. Nübel (Braunschweig/DE)
- EMP170 Preliminary analysis of the microbiota of regularly microwave-sanitized and non-sanitized kitchen sponges using metagenome shotgun sequencing
S. Jacksch, J. Thota, M. Egert (Villingen-Schwenningen/DE)
- EMP171 DNA-Stable Isotope Probing (DNA-SIP) to identify key polycyclic aromatic hydrocarbon (PAH) degraders in a sulfate-reducing enrichment culture
S. Suresh, N. Abu Laban, H. Müller, R. U. Meckenstock (Essen/DE)
- EMP172 Genetic analysis of biofilm formation of *Sphingomonas* sp. strain S2M10 on different plastic surfaces
M. Czieborowski, A. Hübenthal, B. Philipp (Münster/DE)
- EMP173 Large scale isolation of bacteriophages infecting marine *Rhodobacteraceae*
V. Bischoff, B. Heyerhoff, A. Bögeholz, F. Zucker (Oldenburg/DE)
A. Poehlein (Göttingen/DE), M. Simon, C. Moraru (Oldenburg/DE)
- EMP174 Comparative proteome analysis of glucose degradation in *Bacillus stamsii*: axenic culture versus methanogenic co-culture
F. Gräßle, D. Schleheck, B. Schink, N. Müller (Konstanz/DE)
- EMP175 Characterization of *Acinetobacter* spp. isolated from input (livestock manure) and output samples of German biogas plants
D. Pulami, T. Schauss, S. Mishra (Gießen/DE), J. Bender (Wernigerode/DE)
J. Blom, A. Goesmann, P. Kämpfer (Gießen/DE)
G. Wilharm (Wernigerode/DE), S. P. Glaeser (Gießen/DE)
- EMP176 Tree holes as model systems to study bacterial community assembly and biogeography
F. Bajerski (Braunschweig/DE), J. Pascual (Braunschweig/DE, Paterna/ES)
A. Methner (Braunschweig/DE), A. Roberts
M. M. Gossner (Birmensdorf/CH), J. S. Petermann (Salzburg/AT)
J. Overmann (Braunschweig/DE)

- EMP177 Root-derived organic carbon fuels diverse fermentative processes in a methane-emitting fen
A. Meier, S. Hunger, H. L. Drake, O. Schmidt (Bayreuth/DE)
- EMP178 Aurantimycin resistance genes contribute to survival of *Listeria monocytogenes* during life in the environment
S. Hauf (Wernigerode/DE), J. Herrmann, M. Miethke (Saarbrücken/DE)
J. Gibhardt, F. M. Commichau (Göttingen/DE), R. Müller (Saarbrücken/DE)
S. Fuchs, S. Halbedel (Wernigerode/DE)
- EMP179 Novel H₂-uptake active enzymes from deep-sea hydrothermal vents: evidence for the need of functional metagenomics
N. Adam, M. Perner (Kiel/DE)
- EMP180 Induction of the viable but non-culturable state (VBNC) in bacterial pathogens and tolerance testing against antimicrobials based on de-novo ATP production
C. Robben, A. K. Witte, B. Stessl, D. Schoder, P. Rossmanith
P.-J. Mester (Vienna/AT)
- EMP181 The Alphaproteobacterium *Paracoccus denitrificans* employs the glyoxylate cycle in addition to the ethylmalonyl-CoA pathway to speed up C2-assimilation
K. Kremer, L. Schada von Borzyskowski, M. van Teeseling, M. Thanbichler
T. J. Erb (Marburg/DE)
- EMP182 Elevated atmospheric CO₂ effects diversity and abundance of heterotrophic and methylotrophic bacteria cultivated by dilution-to-extinction cultivation from the phyllosphere of *Arrhenatherum elatius* and *Galium album* plants
E. L. Aydogan, O. Budich, M. Hardt, G. Moser (Gießen/DE)
Christo. Müller (Dublin/IE, Gießen/DE), P. Kämpfer (Gießen/DE, Dublin/IE)
S. P. Glaeser (Gießen/DE)
- EMP183 Atypically high nitrogen fixation rates in the chemocline of the meromictic Lake Cadagno, Switzerland
M. Philippi (Bremen/DE)
- EMP184 Proteomic insights into ulvan degradation by *Formosa agariphila* KMM 3901T
M.-K. Zühlke, L. Reisky (Greifswald/DE)
J.-H. Hehemann (Greifswald, Bremen/DE), S. Markert, M. Bäumgen
F. Unfried, A. Trautwein-Schult, D. Becher (Greifswald/DE)
R. Amann (Bremen/DE), U. T. Bornscheuer, T. Schweder (Greifswald/DE)

POSTER SESSION 1 | MONDAY, 18 MARCH

- EMP185 The microbiome of desert plants – hints for an increasingly warmer and drier planet
L. P. Partida-Martínez (Guanajuato/MX)

Fungal Physiology and Differentiation | FPP186–FPP187

- FPP186 Localization of the germinal centre kinase SmKIN3 is dependent on the conserved STRIPAK signaling pathway
V. Stein, R. Märker, D. Radchenko (Bochum/DE), B. Blank-Landeshammer
A. Sickmann (Dortmund/DE), U. Kück (Bochum/DE)
- FPP187 Structural studies of the novel MLE-PAM2L interaction involved in endosome-mediated mRNA transport in plant pathogenic fungus *Ustilago maydis*
S. Devan, S. Schott-Verdugo, T. Pohlmann, M. Feldbrügge (Düsseldorf/DE)

Gene Regulation | GRP188–GRP210

- GRP188 Strategies of insect pathogenic *Photobacterium luminescens* 2° cells for adaptation to the rhizosphere environment
N. Dominelli (Mainz/DE), S. Eckstein (Mainz, Martinsried/DE)
R. Heermann (Mainz/DE)
- GRP189 Regulation of the fructosyllysine metabolism in *Escherichia coli*
J. Lassak, B. F. C. Graf von Armanse, F. Koller (Planegg-Martinsried/DE)
- GRP190 Towards a regulatory network – light-dependent biosynthesis of bacteriochlorophyll a in *Dinoroseobacter shibae*
M. Becker, D. Jahn, E. Härtig (Braunschweig/DE)
- GRP191 Regulation of the β -hydroxyaspartate pathway in *Ruegeria pomeroyi* DSS-3 by an IclR-type regulator acting both as a repressor and activator
L. Hermann, L. Schada von Borzyskowski, T. J. Erb, E. Bremer (Marburg/DE)
- GRP192 Elucidating cyanobacterial phytochrome 1-mediated signaling pathways in the cyanobacterium *Synechocystis* sp. PCC 6803.
N. Priyadarshini, A. Wilde (Freiburg i. Br./DE)
- GRP193 Regulation of polar flagellar assembly in *Shewanella putrefaciens*
M. Schwan (Gießen/DE), D. Mrusek (Marburg/DE)
A. Khaledi (Braunschweig/DE), T. Glatter (Marburg/DE)
S. Häußler (Braunschweig/DE), G. Bange (Marburg/DE)
K. Thormann (Gießen/DE)

- GRP194 Functional analysis and cofactor determination of the iron response regulator IscR of *Dinoroseobacter shibae*
L. Plötzky, M. Behringer, K. E. Rennhack, D. Jahn
 E. Härtig (Braunschweig/DE)
- GRP195 Mechanisms of gene regulation by the attenuator sRNA rnTrpL and the leader peptide peTrpL
S. Li, H. Melior, E. Evguenieva-Hackenberg (Gießen/DE)
- GRP196 Posttranscriptional regulation of SAM and m6A modification of RNA in the alpha-proteobacterium *Sinorhizobium meliloti*
R. Scheuer, H. Melior, O. Rossbach, J. Bathke, A. Goesmann
 E. Evguenieva-Hackenberg (Gießen/DE)
- GRP197 Small proteins in the soybean symbiont *Bradyrhizobium japonicum*
S. Azarderakhsh, E. Evguenieva-Hackenberg (Gießen/DE)
- GRP198 Synthetic counter-silencing as an approach to study evolutionary network expansion
J. Wiechert, J. Frunzke (Jülich/DE)
- GRP199 The two nitrogenase systems in *Rhodobacter capsulatus* mutually control each other
L. Demtröder, B. Masepohl (Bochum/DE)
- GRP200 The role of the C₄-Dicarboxylate-transporter DcuA and the aspartate ammonia-lyase AspA in nitrogen assimilation by *Escherichia coli*
Ch. Schubert, A. Strecker, G. Unden (Mainz/DE)
- GRP201 Two novel XRE-transcriptional regulators play a major role in regulation of phenotypic heterogeneity in the insect pathogen *Photorhabdus luminescens*
S. Eckstein, M. Seidel (Martinsried, München/DE)
 R. Heermann (Mainz/DE)
- GRP202 GabR activates the γ -aminobutyrate (GABA) catabolic pathway in *Corynebacterium glutamicum*
L. Zhu, M. Baumgart, M. Bott (Jülich/DE)
- GRP203 Regulation of the latex clearing proteins in *Gordonia polyisoprenivorans* VH2 by LcpR_{VH2}
S. Oetermann, R. Jongsma (Münster/DE)
 A. Steinbüchel (Münster/DE, Jeddah/SA)

POSTER SESSION 1 | MONDAY, 18 MARCH

- GRP204 Analysis of iCLIP data to identify targets of ribonucleases in *Synechocystis* sp. PCC 6803
U. Hoffmann, K. Voigt, O. Siadat, J. Behler, A. Wilde (Freiburg i. Br./DE)
- GRP205 The phosphotransferase protein EliANtr regulates AcnB aconitase activity in a phosphorylation-independent manner in *Escherichia coli*
F. Sikora, M. Mörk-Mörkenstein, B. Görke (Vienna/AT)
- GRP206 The GntR family transcriptional regulator PMM1637 regulates the highly conserved cyanobacterial sRNA Yfr2 in marine picocyanobacteria
C. Steglich, J. Lambrecht, M. Wahlig (Freiburg i. Br./DE)
- GRP207 Complex activation of quorum sensing target genes in a *B. subtilis* isolate
B. Steinfeld, S. Trauth, I. Bischofs-Pfeifer (Marburg/DE)
- GRP208 The analysis of two antisense located within genes *gumB* and *gumD* RNAs of *Xanthomonas campestris* pv. *campestris* B100
A.-F. Lopez Hernandez, V. Ortseifen, K. Niehaus, A. Pühler (Bielefeld/DE)
- GRP209 sRNA scr5239 – an important regulator of the C-metabolism in *Streptomyces*
F. Engel, M. Vockenhuber, B. Süß (Darmstadt/DE)
- GRP210 Proteome analysis of *Streptococcus suis* under stress conditions and in host-pathogen interaction
D. Dittmar (Greifswald/DE), C. Weiße (Leipzig/DE), P. Hildebrandt
U. Mäder, M. Gesell Salazar, S. Michalik (Greifswald/DE)
C. Baums (Leipzig/DE), U. Völker (Greifswald/DE)

15:45–18:00 Poster Session 2

Archaea | ARP211–ARP229

- ARP211 Investigations of the gvpACNO-gene cluster
A. Jost, F. Pfeifer (Darmstadt/DE)
- ARP213 SaUSP1, an ATP-binding universal stress protein, enhances the adaptation of *Sulfolobus acidocaldarius* cells to nutrient starvation and high salinity stress
X. Ye, C. van der Does, S.-V. Albers (Freiburg i. Br./DE)
- ARP214 Regulation of the mtsDFH-genes from *Methanosarcina acetivorans* as a paradigm of archaeal signal transduction
L. Blasius, N. Frankenberg-Dinkel (Kaiserslautern/DE)
- ARP215 Heavy metal stress on *Halobacterium salinarum*: Effects on EPS composition and the proteome of biofilm cells
S. Völkel, F. Pfeifer (Darmstadt/DE)
- ARP216 Translation initiation factor network in *Haloferax volcanii*
F. Schramm (Frankfurt a. M./DE), U. Linne (Marburg/DE)
J. Soppa (Frankfurt a. M./DE)
- ARP217 Influence of *Methanosarcina spherical virus* (MetSV) on hosts transcription
F. O. Petersen, K. Weidenbach, R. A. Schmitz-Streit (Kiel/DE)
- ARP218 Characterization of the transcriptome of *Haloferax volcanii* with mixed RNA-Seq
A. Borst, S. Laass (Frankfurt a. M./DE), K. U. Förstner (Würzburg/DE)
J. Kliemt, M. Hammelmann (Frankfurt a. M./DE)
F. Pfeiffer (Martinsried/DE), J. Soppa (Frankfurt a. M./DE)
- ARP219 Interaction of Haloarchaeal Gas Vesicle Proteins Determined by Split-GFP
K. Völkner, J. Born, F. Pfeifer (Darmstadt/DE)

POSTER SESSION 2 | TUESDAY, 19 MARCH

- ARP220 Establishing Genetic Tools for the Thermophilic Methanogen
Methanothermobacter thermautotrophicus Δ H
C. Fink, L. T. Angenent, B. Molitor (Tübingen/DE)
- ARP221 Single-domain zinc finger μ -proteins in *Haloferax volcanii*
S. Zahn, A. Machulla, C. Nagel, J. Soppa (Frankfurt a. M./DE)
- ARP222 Genome-scale Investigations of *Methanothermobacter thermautotrophicus*
I. Casini, C. Fink, D. Evseeva, A. Dräger, D. Huson, L. T. Angenent
B. Molitor (Tübingen/DE)
- ARP223 Enzymes of the 3-hydroxypropionate/4-hydroxybutyrate cycle in
Nitrosopumilus maritimus
Li. Liu (Münster, Freiburg i. Br./DE), M. Könneke (Bremen/DE), D. Schubert
P. Brown (Freiburg i. Br./DE), I. A. Berg (Münster, Freiburg i. Br./DE)
- ARP224 An unusual type of glycerol-3-phosphate dehydrogenase is involved in
glycerol degradation in *Sulfolobus acidocaldarius*
C. Schmerling, X. Zhou, C. Bräsen, B. Siebers (Essen/DE)
- ARP225 Fatty acid degradation in *Sulfolobus acidocaldarius*
X. Zhou, C. Schmerling (Essen/DE), D. Sybers (Brüssel/BE)
K. Wang (Stockholm/SE), E. Peeters (Brüssel/BE)
A.-C. Lindås (Stockholm/SE), C. Bräsen, B. Siebers (Essen/DE)
- ARP226 Archaeal biofilms - Composition of extracellular polymeric substances,
exopolysaccharide synthesis and transport in *Sulfolobus acidocaldarius*
L. Kuschmierz, M. Meyer, B. Meyer, J. Wingender, C. Bräsen (Essen/DE)
S.-V. Albers (Freiburg i. Br./DE), O. Schmitz, B. Siebers (Essen/DE)
- ARP227 Uptake of xylose and arabinose in *Haloferax volcanii* is mediated by an
ABC-Transporter
U. Johnsen, M. Ortjohann, J.-M. Sutter, P. Schönheit (Kiel/DE)
- ARP228 RhcR – a transcriptional activator of L-rhamnose catabolism in *Haloferax*
volcanii
A. Reinhardt, U. Johnsen, P. Schönheit (Kiel/DE)
- ARP229 How do archaea assimilate nitrogen? Structural insights of the archaeal
glutamate synthase reveal a „primitive“ multi-component machinery
fuelled with a new electron donor
T. Wagner (Bremen/DE), S. Shima (Marburg/DE)

Biotic Interactions | BIP230–BIP239

- BIP230 Characterization of a multidomain hybridkinase and its role in signal transduction in *Methanosarcina acetivorans*
A. Sexauer, N. Frankenberg-Dinkel (Kaiserslautern/DE)
- BIP231 Interactions of cyanobacteria and predators
A. Bauer, E. Kemen, K. Forchhammer (Tübingen/DE)
- BIP232 Esca disease of grapevine: the role of secondary metabolites in plant pathogen interaction
Jo. Fischer, B. Berkelmann-Löhnertz, T. Opatz, A. Schöffler
E. Thines (Kaiserslautern, Mainz/DE)
- BIP233 Searching for beneficial organisms to mitigate apple replant disease: a metagenomic approach
V. Radl, J. B. Winkler, S. Kublik, G. Vestergaard, P. Schröder
F. Buegger (Oberschleißheim/DE), T. Winkelmann (Hannover/DE)
M. Schloter (Oberschleißheim/DE)
- BIP234 Exploring the freshwater sponge – bacteria interspecies interaction
M. Jogler (Braunschweig/DE), N. Kallscheuer, T. Kohn (Nijmegen/NL)
F. Brümmer, R. W. Müller (Stuttgart/DE), S. Wiegand (Nijmegen/NL)
M. Rohde (Braunschweig/DE), C. Jogler (Nijmegen/NL)
- BIP235 Fungal Secondary Metabolites in Environmental Dynamics: Impact of Antagonistic and Mutualistic Interactions associated with Tree Canker
L. Heck (Mainz/DE), L. Antelo (Kaiserslautern/DE), K. Andresen (Mainz/DE)
E. Thines (Kaiserslautern, Mainz/DE)
- BIP236 FISH protocol optimization for an anaerobic, biofilm-forming consortium from Costa Rica
L. Dengler, A. Bellack, R. Rachel, D. Grohmann, H. Huber (Regensburg/DE)
- BIP237 Insight into smut fungal infection strategies: the genome and the transcriptome of the Brassicaceae smut fungus *Thecaphora thlaspeos* reveal conserved and novel effectors
K. Courville, L. Fratzeskakis, S. Gul (Düsseldorf/DE)
R. Kellner (Cologne, Düsseldorf/DE), B. Day (East Lansing, MI/US)
B. Usadel (Aachen/DE), P. van Esse (Norwich/GB)
A. Brachmann (München/DE), M. Feldbrügge, V. Göhre (Düsseldorf/DE)

POSTER SESSION 2 | TUESDAY, 19 MARCH

BIP238 Changes of the bacterial communities and the antimicrobial and disinfectant resistance gene abundance in the gut microbiota of *Hermetia illucens* larvae and the residual of the employed substrate during a rearing process
Y. A. Cifuentes Triana, S. P. Glaeser, J. Mvie (Gießen/DE)
H. Gutzeit (Dresden/DE), A. Vilcinskas, P. Kämpfer (Gießen/DE)

BIP239 Development of photoautotrophic biofilm communities on microplastic particles in freshwater environments
R. Jongsma, B. Philipp (Münster/DE)

Chemical Communication | CCP240–CCP243

CCP240 Cell-to-cell-signaling in microbial communities of pyrite-oxidizing acidophiles
S. Bellenberg (Kalmar/SE), M. Vera (Santiago/CL), M. Dopson (Kalmar/SE)

CCP242 Impact of loss of quorum sensing and tropodithietic acid production on the *Phaeobacter inhibens* exometabolome
S. Srinivas, J. Niggemann, T. Brinkhoff (Oldenburg/DE)

CCP243 Antibacterial effect of TiO₂ and ZnO nanoparticles on some Pathogenic bacterial strains
S. Allouache, T. Mostefaoui (Bejaia/DZ)

Large Protein Complexes | LPP244–LPP254

LPP244 Comparative Analysis of the N-Terminal Domain Protein Fusion of the Hydrogenase Large Subunit HycE from the Formate Hydrogenlyase Complex and NuoCD of the Respiratory Complex I
P. Skorupa, C. Blumenscheit, U. Lindenstrauß (Halle a. d. S./DE), S. Burschel, T. Friedrich (Freiburg i. Br./DE), C. Pinske (Halle a. d. S./DE)

LPP245 Characterization of cystargolide A and B as inhibitors of the caseinolytic protease P
A. Illigmann, F. Wolf, L. Kaysser, H. Brötz-Oesterhelt (Tübingen/DE)

LPP246 HypD and its Role in Diatomic Ligand Biosynthesis of NiFe-Hydrogenases: A Resonance Raman Study of the HybG-HypD Complex
K. Nutschan (Halle a. d. S./DE), C. Kulka, I. Zebger (Berlin/DE)
G. Sawers (Halle a. d. S./DE)

- LPP247 Protein-protein interactions involved in the Stickland fermentation in *Clostridioides difficile*
K. E. Rennhack, J. M. Borrero de Acuña, J. Wissing
D. Jahn (Braunschweig/DE)
- LPP248 A 1-MDa metalloenzyme complex in *Geobacter metallireducens* catalyzes benzene ring reduction possibly by two flavin-based electron bifurcations
S. E. L. Anselmann, S. G. Huwiler, C. Löffler (Freiburg i. Br./DE), H.-J. Stärk
M. von Bergen (Leipzig/DE), J. Flechsler, R. Rachel (Regensburg/DE)
M. Boll (Freiburg i. Br./DE)
- LPP249 Co-evolution of curli components CsgA and CsgB
J. Chilimoniuk, P. Mackiewicz (Wrocław/PL), M. Burdukiewicz (Warsaw/PL)
- LPP250 Molecular basis of the FliC-DnaK-NirS complex in the periplasm of *Pseudomonas aeruginosa*
K. Müller, J. M. Borrero de Acuña, G. Molinari, M. Rohde, M. Jahn
D. Jahn (Braunschweig/DE)
- LPP251 Structure of the Nitrite Oxidoreductase (Nxr) from the Anammox Bacterium *Kuenenia stuttgartiensis*
T. Moreno-Chicano, A. Dietl, A. Mohd (Heidelberg/DE), N. de Almeida
W. J. Maalcke, J. T. Keltjens, B. Kartal (Nijmegen/NL)
M. S. M. Jetten (Nijmegen, Delft/NL), T. R. M. Barends (Heidelberg/DE)
- LPP252 Investigation of the kinetochore structure by aberration-free and quantitative multi-color single-molecule localization microscopy imaging
I. Vojnovic, D. Virant, J. Winkelmeier, M. Rigl, U. Endesfelder (Marburg/DE)
- LPP253 Creating a three-color fluorescent protein fusion tag library of kinetochore proteins to investigate chromosome segregation in *Schizosaccharomyces pombe*
M. Rigl, J. Winkelmeier, I. Vojnovic, D. Virant, U. Endesfelder (Marburg/DE)
- LPP254 Structural adaptations of photosynthetic complex I enable ferredoxin-dependent electron transfer
J. M. Schuller (Martinsried/DE), J. A. Birrell (Mülheim a. d. Ruhr/DE)
H. Tanaka (Toyonaka, Suita/JP), T. Konuma (Tsurumi-ku/JP)
H. Wulfhorst (Bochum, München/DE)
N. Cox (Canberra/AU, Mülheim a. d. Ruhr/DE), S. K. Schuller (München/DE)
J. Thiemann (Bochum/DE), W. Lubitz (Mülheim a. d. Ruhr/DE)
P. Sétif (Gif-sur-Yvette/FR), T. Ikegami (Tsurumi-ku/JP)
B. D. Engel (Martinsried/DE), G. Kurisu (Suita, Toyonaka/JP)
M. M. Nowaczyk (Bochum/DE)

POSTER SESSION 2 | TUESDAY, 19 MARCH

Membranes and Transport | MTP255–MTP284

- MTP255 Biogenesis of Iron assembly cofactors of *Vibrio cholerae* and its unique sodium pump (Na⁺-NQR)
S. Agarwal, M. Bernt, Gü. Fritz, J. Steuber (Stuttgart/DE)
- MTP256 Outer membrane vesicles in an algae-bacteria coculture
J. Mansky, Hu. Wang, S. Sanchez Garcia, N. Beier, C. Boedeker
M. Neumann-Schaal, J. Overmann, S. Engelmann
I. Wagner-Döbler (Braunschweig/DE)
- MTP257 Substrate-dependent cluster density dynamics in bacterial phosphotransferase system permeases
G. Benevides Martins, G. Giacomelli, M. Bramkamp (München/DE)
- MTP258 Functional role of a small protein released via outer membrane vesicles from the plant pathogen *Agrobacterium tumefaciens*
L. R. Knoke, S. U. Abad Herrera, B. H. Justesen, T. Günther-Pomorski
S. Schäkermann, J. Bandow, M. Aktas (Bochum/DE)
- MTP259 Unravelling Formate Translocation by FocA in *Escherichia coli*
M. Kammel, D. Hunger, G. Sawers (Halle a. d. S./DE)
- MTP260 Characterization of a bacterial phospholipid N-methyltransferase with membrane deformation activity
J. Kleetz, L. Danne, M. Aktas, R. Erdmann, F. Narberhaus (Bochum/DE)
- MTP261 Structural and functional analysis of bacterial phospholipid biosynthesis enzymes from *Xanthomonas campestris*.
G. Vasilopoulos, R. Moser, C. Simon, M. Aktas, F. Narberhaus (Bochum/DE)
- MTP262 Magnesium transport in cyanobacteria
A.-C. Pohland, Di. Schneider (Mainz/DE)
- MTP263 The UDP-galactose 4-epimerase HgdA and the ABC transporter components HgdB and HgdC are important for heterocyst function in *Anabaena* sp. PCC 7120
D. Shvarev, I. Maldener (Tübingen/DE)
- MTP264 Minor porins as alternative antibiotic translocation routes in *E. coli*
D. Hörömpöli, A. Berscheid, H. Brötz-Oesterhelt (Tübingen/DE)

- MTP265 Mixing *Mycobacterium tuberculosis* and *Corynebacterium glutamicum* Tat systems
E.-J. Schniete, L. Ostermann (Hannover/DE), R. Freudl (Jülich/DE)
 T. Brüser (Hannover/DE)
- MTP266 A second mode of energy conservation in acetogenic bacteria: Ech instead of Rnf as respiratory enzyme
M. C. Schoelmerich (Hamburg, Frankfurt a. M./DE)
 V. Müller (Frankfurt a. M./DE)
- MTP267 Transport of citrate is mediated by a tripartite tricarboxylate transport system in *Advenella mimigardefordensis* DPN7T
 Lu. Schäfer (Münster/DE)
- MTP268 Extracytoplasmic loop-loop interactions activate an ECF-type Co²⁺ transporter
S. N. Pecina, M. Gäde, F. Finkenwirth, T. Eitinger (Berlin/DE)
- MTP269 Identification and functional analysis of the building block of homooligomeric IM30 rings
 B. Junglas, R. Orru, A. Axt, S. Weber, H.-J. Butt, E. Wolf
 Di. Schneider (Mainz/DE)
- MTP270 The mechanism behind bacterial lipoprotein release: Phenol-soluble modulins mediate TLR2 activation via extracellular vesicle release from *Staphylococcus aureus*
K. Schlatterer, C. Beck, D. Hanzelmann, B. Fehrenbacher, M. Schaller
 P. Ebner, M. Nega, D. Kretschmer, A. Peschel (Tübingen/DE)
- MTP271 Cell membranes and the diversity of hydrophobic compounds that play a central role in its functioning and integrity
 B. J. Tindall (Braunschweig/DE)
- MTP272 Recovery of the Peptidoglycan Turnover Product of the Atl Autolysin in *Staphylococcus aureus* involves the Phosphotransferase System Transporter MurP and the Unique 6-phospho-N-acetylmuramidase MupG
 R. Kluj (Tübingen/DE)
- MTP273 An archaeal ATP synthase with a c-subunit consisting of four transmembrane helices with only one ion-binding site is able to synthesize ATP
D. Litty, V. Müller (Frankfurt a. M./DE)

POSTER SESSION 2 | TUESDAY, 19 MARCH

- MTP274 Gain-of-function mutations in the phospholipid flippase MprF confer specific daptomycin resistance
Ch. Ernst (Boston, MA/US), C. Slavetinsky, S. Kuhn, J. Hauser
M. Nega (Tübingen/DE), N. Mishra, A. Bayer (Torrance, CA/US)
A. Peschel (Tübingen/DE)
- MTP275 Comparison of the bacterial phospholipase PlaF and its human homolog ABHD6
C. H. Strunk, F. Bleffert, D. Paffen (Jülich/DE)
S. Schott-Verdugo (Düsseldorf/DE), H. Gohlke (Jülich, Düsseldorf/DE)
F. Kovacic, K.-E. Jaeger (Jülich/DE)
- MTP276 PlaB, a novel intracellular phospholipase A of *Pseudomonas aeruginosa* with activity towards endogenous phospholipids
A. J. Weiler, C. H. Strunk, J. Berger, K.-E. Jaeger, F. Kovacic (Jülich/DE)
- MTP277 Structural and functional investigation of the novel ectoine uptake system EctI
Y. Hellmich (Frankfurt a. M./DE), L. Czech (Marburg/DE)
I. Tascon (Frankfurt a. M./DE), E. Bremer (Marburg/DE)
I. Hänelt (Frankfurt a. M./DE)
- MTP278 Analysis of intracellular pH and c-di-AMP levels in *Corynebacterium glutamicum* strains altered in ion homeostasis
D. Weixler, T. Lhkaasuren, S. Reich, O. Goldbeck, G. M. Seibold (Ulm/DE)
- MTP279 Assembly of the unique potassium uptake system KtrAB
J. Stautz, M. Schrecker, J. Vonck (Frankfurt a. M./DE)
H. Strahl (Newcastle upon Tyne/GB), I. Hänelt (Frankfurt a. M./DE)
- MTP280 The function of outer membrane vesicles of a soil-bound *Acidobacterium*
C. Boedeker, Hu. Wang, P. Henke, M. Rohde, I. Wagner-Döbler
M. Neumann-Schaal, J. Overmann (Braunschweig/DE)
- MTP281 The chloramphenicol/H⁺ antiporter CraA of *Acinetobacter baumannii* reveals a broad substrate specificity
W. E. Foong, H. K. Tam, J. J. Crames, B. Averhoff
K. M. Pos (Frankfurt a. M./DE)
- MTP282 L-Malate transporter DcuE of *Actinobacillus succinogenes* catalyses reversible exchange of C₄-dicarboxylates
M. N. Rhie, Y. Lee, Y. B. Cho, O. B. Kim (Seoul/KR)

- MTP283 Influence of bacterial lipopolysaccharide modifications on the efficacy of antimicrobial ionic liquids
T. Gundolf, B. Rauch (Vienna/AT), R. Kalb (Grambach/AT), P. Rossmanith P.-J. Mester (Vienna/AT)
- MTP284 Uncovering the the principles of type IV secretion of membrane proteins in *Legionella pneumophila*
S. Malsheimer, I. Grin, L. Krampen, Sa. Wagner (Tübingen/DE)

Microbial Ecology | MEP285–MEP309

- MEP285 Synergistic effects of antimicrobial substances from some bacteria against human pathogens and mycotoxigenic fungi
H.-G. Song, D.-S. Lee (Chuncheon/KR)
- MEP286 Biodegradation of mycotoxins and growth inhibition against mycotoxigenic fungi by *Streptomyces* spp.
H.-G. Song, J.-S. Hwang (Chuncheon/KR)
- MEP287 Deducing human impact on the environment via sedimentary DNA information from lake Tiefer See NE Germany
E. Nwosu, D. Wagner, A. Brauer, S. Liebner (Potsdam/DE)
- MEP288 Microbial Isolation Source Ontology: #Tagging the origin of microbial strains
L. Reimer, J. Sardà, S. Huang, A. Yurkov, S. Gronow J. Overmann (Braunschweig/DE)
- MEP289 Evolutionary history of symbiotic digestion: Gut flagellates of termites and their bacterial symbionts
T. Kropp, K. Meuser (Marburg/DE), S. Altinay, R. Radek (Berlin/DE) A. Brune (Marburg/DE)
- MEP290 Marine fungal community dynamics through a spring algal bloom
T. Priest, M. Reich, R. Amann, B. Fuchs (Bremen/DE)
- MEP291 A Complex and Diverse Community of Chlorophototrophic Bacteria Thrive in Hot Spring Microbial Mats
M. Tank, Y. Shirotori, S. Yoshida (Hachioji, Tokyo/JP)
D. M. Ward (Bozeman, MT/US), S. Hanada (Hachioji, Tokyo/JP)
D. A. Bryant (Philadelphia, PA/US)

POSTER SESSION 2 | TUESDAY, 19 MARCH

- MEP292 Establishment of a robust metaproteomics pipeline to investigate structure and function of the gastrointestinal tract microbiome
L. Gierse, A. Meene, C. Wünsche, N. Siemens, D. Zühlke, D. Becher, T. Urich
K. Riedel (Greifswald/DE)
- MEP293 Unraveling the drivers of microbial communities in mangrove ecosystems
O. Jeske (Braunschweig/DE), V. Helfer (Bremen/DE), K. Grunewald
R.-U. Syrbe (Dresden/DE), C. Ulpinnis (Halle a. d. S./DE), B. Fedder
H. Reuter (Bremen/DE), S. Neumann (Halle a. d. S./DE)
M. Zimmer (Bremen/DE), J. Overmann (Braunschweig/DE)
- MEP294 Detoxification spectrum of various toxic substances by yeast-like symbiont *Symbiotaphrina* strains
J. Lee, T. Engl, M. Kaltenpoth (Mainz/DE)
- MEP295 *Phaeobacter inhibens* DSM 17395 - Conquest of new ecological niches via horizontal gene transfer
L. Birmes, H. Brinkmann, S. Verbarq, S. Hahnke, S. Spring
J. Petersen (Braunschweig/DE)
- MEP296 Micrococcin P1 expression by a nasal *Staphylococcus aureus* isolate
S. Krauss, B. Krismer, A. Peschel (Tübingen/DE)
- MEP297 Ecological role of plasmids in Siberian permafrost-affected soils
A. Gorecki (Warsaw/PL), S. Holm (Potsdam/DE)
M. Dziurzynski (Warsaw/PL), M. Winkel, S. Liebner
D. Wagner (Potsdam/DE), L. Dziewit (Warsaw/PL), F. Horn (Potsdam/DE)
- MEP298 Surviving the ferruginous Archean ocean – Assessing the potential toxicity of Fe²⁺ on basal Cyanobacteria in anaerobic conditions
A. Herrmann, M. Gehringer (Kaiserslautern/DE)
- MEP299 The Good, the Bad and the Smelly – developing a representative model for the human axillary microbiome
S. Nordzieke, B. Diesing, M. Singer, R. Wittlake, I. Lanfermann, S. Winkler
G. Schmaus, M. Pesaro, C. Koch (Holzminden/DE)
- MEP300 Shifts in soil management regime affect bacteria which influence soil structure formation in a mine reclamation site
M. Vuko (Neuherberg, Freising/DE), B. Cania (Neuherberg/DE)
C. Vogel (Freising, Dresden/DE), M. Schloter (Neuherberg, Freising/DE)
S. Schulz (Neuherberg/DE)

- MEP302 Fungal networks in subtropical Chinese forests
C. Weißbecker (Halle a. d. S./DE), A. Heintz-Buschart
T. Wubet (Halle a. d. S., Leipzig/DE)
H. Bruelheide (Leipzig, Halle a. d. S./DE), F. Buscot (Halle a. d. S., Leipzig/DE)
- MEP303 Finding ssDNA prophages in bacterial genomes
D. Lücking, F. Zucker, C. Moraru (Oldenburg/DE)
- MEP304 Microbial ecology of hydrothermally active Kermadec vent field
B. Dede (Bremen/DE), R. Zitoun (Dunedin/NZ)
S. Sander (Dunedin/NZ, Monaco/MC), J. Thal, A. Türke, M. Walter, W. Bach
R. Amann, A. Meyerdierks (Bremen/DE)
- MEP305 Investigation of the role of the β -hydroxyaspartate cycle in a
diatom-bacteria co-culture system
F. Severi, L. Schada von Borzyskowski, P. Claus, T. J. Erb (Marburg/DE)
- MEP306 Metagenomic approaches towards low abundance microbiomes: analyzing
bacterial communities colonizing the human lung
H. Ghosh (Kiel/DE), W. Behrens, A. Methner, F. Klann (Braunschweig/DE)
C. Herzmann (Borstel/DE), S. Krauss-Etschmann (Borstel, Kiel/DE)
J. Sikorski, B. Bunk, J. Overmann (Braunschweig/DE)
- MEP307 Abiotic factors shape single-cell metabolic heterogeneity in monoclonal
microbial populations
F. Calabrese, H. Stryhanyuk, F. Musat, H.-H. Richnow, M. Thullner
L. Y. Wick, N. Musat (Leipzig/DE)
- MEP308 Manipulation from withing – How does functional niche occupancy impact
a next generation probiotic?
A. Ramirez Garcia, J. Zhang, E. Wortmann, M. Wandres, S. Sturla, C. Lacroix
C. Schwab (Zürich/CH)
- MEP309 Abstract has been withdrawn.

POSTER SESSION 2 | TUESDAY, 19 MARCH

Microbial Stress Response | MSP310–MSP336

- MSP310 Alterations in gene expression of *Bacillus subtilis* caused by high salinity and the compatible solute glycine betaine
H. Rath, A. Reder, L. Steil, P. K. Sappa (Greifswald/DE), T. Hoffmann
E. Bremer (Marburg/DE), U. Völker, U. Mäder (Greifswald/DE)
- MSP311 Sodorifen emission in *Serratia* spp. – A reaction to biotic stress
N. Magnus, B. Piechulla (Rostock/DE)
- MSP312 Genetic and metabolic plasticity recruits arginine metabolism for osmopressure adaptation in *Bacillus subtilis*
D. Stecker, T. Hoffmann, H. Link (Marburg/DE)
F. M. Commichau (Göttingen/DE), E. Bremer (Marburg/DE)
- MSP313 The AGXX® antimicrobial coating causes a thiol-specific oxidative stress response and protein S-bacillithiolation in *Staphylococcus aureus*
V. L. Vu (Berlin/DE), T. Busche (Berlin, Bielefeld/DE), T. Preuß (Berlin/DE)
J. Kalinowski (Bielefeld/DE), J. Bernhardt (Berlin, Greifswald/DE)
H. Antelmann (Berlin/DE)
- MSP314 The impact of the bacilliredoxin pathway under oxidative stress and infection conditions in *Staphylococcus aureus*
N. Linzner, V. V. Loi, S. Stenzel (Berlin/DE), M. Wirtz
R. Hell (Heidelberg/DE), K. Tedin, M. Fulde, H. Antelmann (Berlin/DE)
- MSP315 Identifying the players in the oxidative stress response of *Clostridioides difficile*
D. Troitzsch, P. Wehmeier, S. Dittmann, K. Riedel, S. Sievers (Greifswald/DE)
- MSP316 Stable integration of the Mrx1-roGFP2 biosensor to monitor dynamic changes of the mycothiol redox potential in *Corynebacterium glutamicum*
N. T. Quach, V. L. Vu (Berlin/DE), T. Busche (Bielefeld, Berlin/DE), A. Nerlich
M. Mieth (Berlin/DE), J. Milse, J. Kalinowski (Bielefeld/DE), A. C. Hocke
H. Antelmann (Berlin/DE)
- MSP317 Making the stress-protectant Ectoine: Structural and Biochemical Insights into the Aminotransferase EctB from *Paenibacillus lautus*
A. A. Richter, C.-N. Mais, L. Czech (Marburg/DE)
S. H. J. Smits (Düsseldorf/DE), G. Bange, E. Bremer (Marburg/DE)

- MSP318 Comparison of the ROS detoxification capacities between methicillin-resistant and methicillin-sensitive *Staphylococcus aureus* isolates
A. Sommer, O. Krupper, V. V. Loi, B. Walther (Berlin/DE), M. Wirtz R. Hell (Heidelberg/DE), H. Antelmann (Berlin/DE)
- MSP319 A novel antimicrobial coating inhibits biofilm formation and reduces pathogenesis of MRSA
A. Vaishampayan (Berlin/DE), A. de Jong (Groningen/NL)
D. Wight (Berlin/DE), J. Kok (Groningen/NL), C. Meyer, U. Landau E. Grohmann (Berlin/DE)
- MSP320 CO₂/HCO₃⁻ and PCA induced effects in the iron homeostasis of *Corynebacterium glutamicum*
Fe. Müller (Straubing, Stuttgart/DE), J. Rapp, A.-L. Hacker, A. Feith R. Takors (Stuttgart/DE), B. Blombach (Straubing, Stuttgart/DE)
- MSP321 Abstract has been withdrawn.
- MSP322 Investigation of plasma resistance-mediating genes in *Escherichia coli*
T. Dirks, M. Krewing, K. Weisgerber, F. Jarzina, J. Lackmann (Bochum/DE)
J. Benedikt (Kiel/DE), J. Bandow (Bochum/DE)
- MSP323 Physiological characteristics of biochemical processes of mycobacterial cells in dormancy and in reactivation
V. Nikitushkin, G. Demina, M. Shleeve, A. Kapelyants (Moskau/RU)
- MSP324 Identification and characterization of secondary active betaine, choline and carnitine transporters in *A. baumannii*
J. Breisch, B. Averhoff (Frankfurt a. M./DE)
- MSP325 Adaptation of *Clostridioides difficile* to osmotic stress
A.-M. Michel (Braunschweig/DE), T. Hoffmann, E. Bremer (Marburg/DE)
D. Jahn (Braunschweig/DE)
- MSP326 Mechanisms of maturation of bacterial sRNA-mRNA-cotranscripts
D.-T. Spanka, G. Klug (Gießen/DE)

POSTER SESSION 2 | TUESDAY, 19 MARCH

- MSP327 High-throughput proteomics of TisB-dependent persister cells in *Escherichia coli*
D.-T. Spanka (Gießen/DE), A. Konzer (Bad Nauheim/DE), D. Edelmann
B. Berghoff (Gießen/DE)
- MSP328 The oxidative stress regulator SoxS counteracts TisB toxicity in *Escherichia coli*
D. Edelmann, B. Berghoff (Gießen/DE)
- MSP329 A multi-omics approach to evaluate natural products for *Clostridioides difficile* therapy
M. Brauer (Greifswald/DE), St. Wagner (Jena/DE)
J. Herrmann (Saarbrücken/DE), C. Wolff, S. Sievers (Greifswald/DE)
R. Müller (Saarbrücken/DE), T. M. Fuchs (Jena/DE)
K. Riedel (Greifswald/DE)
- MSP330 Reduction of N-chlorinated amino acids: a new role for thioredoxin
M. Varatnitskaya, K. Xie, N. Lupilov, L. I. Leichert (Bochum/DE)
- MSP331 Insights into the cell membrane protection module of *Bacillus subtilis*
L. Bewersdorf, L. Großmann (Dresden/DE), M. Reineck (München/DE)
K. Stetter (Dresden/DE), M. Bramkamp (München/DE)
D. Wolf (Dresden/DE)
- MSP332 Sulfolipids as trophical marker in a lacustrine freshwater ecosystem
B. Frommeyer, J. Käppel, A. Lapointe, D. Martin-Creuzburg
D. Schleheck (Konstanz/DE)
- MSP333 A c-di-AMP-dependent riboswitch, the three component system EsrISR, and the two component system MtrAB contribute to control of the *nlpC*-operon in *Corynebacterium glutamicum*
T. Weiß, T. Lkhaasuren, S. Reich, G. M. Seibold (Ulm/DE)
- MSP334 Comprehensive characterization of the structure of the general stress „modulon“ of *Bacillus subtilis*
A. Reder, A. Arnab Bandyopadhyay, U. Mäder, U. Gerth, M. Hecker
L. Kaderali, U. Völker (Greifswald/DE)
- MSP335 Effect of NaCl stress on the biofilm formation of *Clostridium acetobutylicum*
M. Lehmann, K. D. Fuchs (Rostock/DE), A. Poehlein (Göttingen/DE), H. Bahl
R.-J. Fischer (Rostock/DE)

- MSP336 Metabolic requirements for successful spore revival in *B. subtilis*
C. Kaspar, K. Nagler (Marburg, Heidelberg/DE)
 A. Mutlu (Heidelberg, Marburg/DE)
 I. Bischofs-Pfeifer (Marburg, Heidelberg/DE)

Open Topics | OTP337–OTP378

- OTP337 Unlike scientists opinions stem cells can be seen in unicellular organisms as well
 R. Amirmardfar (Tabriz/IR)
- OTP338 Polarization of ancestor relations reveals the order of traits in the evolution of cyanobacterial multicellularity
K. Hammerschmidt, G. Landan (Kiel/DE), F. Tria (Kiel, Düsseldorf/DE)
T. Dagan (Kiel/DE)
- OTP339 On the taxonomy of the genus *Corynebacterium*.
 B. J. Tindall (Braunschweig/DE)
- OTP340 Species identification by analysis of eDNA through molecular biological techniques & MALDI-TOF-MS
P. Holm, A. Findeisen, R. Pabst, C. Cordes (Bernburg/DE)
- OTP341 Comparative secretome analyses of human and zoonotic *Staphylococcus aureus* isolates of CC8, CC22 and CC398
 T. Busche (Berlin, Bielefeld/DE), M. Hillion, V. V. Loi, D. Berg, B. Walther
 T. Semmler (Berlin/DE), B. Strommenger, W. Witte
 C. Cuny (Wernigerode/DE), A. Mellmann (Münster/DE)
 M. A. Holmes (Cambridge/GB), J. Kalinowski (Bielefeld/DE)
 L. Adrian (Leipzig/DE), J. Bernhardt (Greifswald/DE)
H. Antelmann (Berlin/DE)
- OTP342 de.NBI–The German Network for Bioinformatics Infrastructure
R. Alkhateeb, T. Dammann-Kalinowski, D. Jording, A. Tauch, D. Wibberg
 M. Wittchen, A. Pühler (Bielefeld/DE)
- OTP343 Detection of protein rhamnosylation in bacteria using a set of novel amino sugar specific antibodies
F. Koller (Planegg-Martinsried/DE), D. Gast, S. Wunder (München/DE)
 R. Krafczyk (Planegg-Martinsried/DE), A. Hoffmann-Röder (München/DE)
 J. Lassak (Planegg-Martinsried/DE)

POSTER SESSION 2 | TUESDAY, 19 MARCH

- OTP344 GTP-Cyclohydrolase I: The second member of the Zur-regulated *cobW1*-gene cluster
V. Schulz, M. Herzberg, D. H. Nies (Halle a. d. S./DE)
- OTP345 Analysis of biofilm phenotypes of 300 clinical and environmental *Stenotrophomonas maltophilia* reveals high levels of phenotypic and structural heterogeneity
I. Alio, M. Gudzuhn, S. Bielfeld (Hamburg/DE), U. Mamat, U. Schaible
S. Niemann, T. Kohl (Borstel/DE), J. Steinmann (Nürnberg/DE)
W. R. Streit (Hamburg/DE)
- OTP346 The small DUF1127 RSP_6037 protein from *Rhodobacter sphaeroides* is a putative RNA-binding protein
J. Grützner, G. Klug (Gießen/DE)
- OTP347 Biosorption of rare earth elements by bacteria, fungi and algae
A. Breuker, S. Ritter, A. Schippers (Hannover/DE)
- OTP348 Structural and spectroscopic characterization of a HdrA-like subunit from *Hyphomicrobium denitrificans*
T. Koch (Bonn/DE), K. Kayastha (Frankfurt a. M./DE), Co. Ernst (Bonn/DE)
S. Venceslau, I. Cardoso Pereira (Lisboa/PT), U. Demmer
U. Ermler (Frankfurt a. M./DE), C. Dahl (Bonn/DE)
- OTP349 Towards the lytic system of prophages of *Bacillus subtilis* 168
S. Freitag-Pohl (Durham/GB), H. Watzlawick (Stuttgart/DE)
E. Pohl (Durham/GB), A. Jasiliones (Lund/SE), M. Plotka (Gdansk/PL)
M. Hakansson, A. Svensson, R. Kovacic (Lund/SE), L. Wang (Stuttgart/DE)
M. Welin, B. Walse (Lund/SE), J. Altenbuchner (Stuttgart/DE)
E. Nordberg-Karlsson (Lund/SE), A. K. Kaczorowska
T. Kaczorowski (Gdansk/PL), S. Al-Karadaghi (Lund/SE)
A. Aevanson (Reykjavik/IS)
- OTP350 RNA thermometers in transcripts of type 3 secretion system components in *Yersinia pseudotuberculosis*
S. Pienkoß, F. Narberhaus (Bochum/DE)
- OTP351 Assembly of phycoerythrin III in *Prochlorococcus marinus* SS120
B. Gu, N. Frankenberg-Dinkel (Kaiserslautern/DE)
- OTP352 Comparison of different methods to detect and quantify living and dead yeast cells in wine
C. Baier, V. Yovkova, C. von Wallbrunn, S. Loos-Theisen (Geisenheim/DE)

- OTP353 New functions of hypochlorous acid-modified human plasma proteins in the defense against pathogens
A. Ulfig, A. Schulz, L. I. Leichert (Bochum/DE)
- OTP354 Immobilization of laccase for multiple use in textile industry
D. Köpke, C. Marschelke, K. Wantz, A. Matura, A. Synytska (Dresden/DE)
- OTP355 Biosynthesis of cell wall glycopolymers in *Streptomyces coelicolor* A3(2)
N. Steblau, S. Sigle, W. Wohlleben, G. Muth (Tübingen/DE)
- OTP356 Marburg Collection: A highly flexible cloning toolbox for *Vibrio natriegens*
D. Stukenberg, T. Hensel, J. Hoff, R. Inckemann, Ge. Fritz (Marburg/DE)
- OTP357 Natural products produced by *Photorhabdus luminescens* are essential for nematode development
H. Vural, H. B. Bode (Frankfurt a. M./DE)
- OTP358 *Clostridia citrullinate* proteins by putative peptidyl arginine deiminase activity
Ju. Fischer, H. Bahl, K. Kriebel (Rostock/DE)
- OTP359 Development of a high-throughput *in vitro* screen for the identification of *Staphylococcus aureus* PBP4 inhibitors
N. Jelden, J.-S. Puls, K. Ludwig, J. Deisinger, T. Schneider, F. Grein (Bonn/DE)
- OTP360 Bacterial cell wall biosynthesis as target for a novel antibiotic isolated from *Streptomyces spec.*
K. Ludwig, A. Müller, T. Schneider (Bonn/DE)
- OTP361 Genomic Analysis of the Recent Viral Isolate vB_BthP-Goe4 Reveals Increased Diversity of ϕ 29-like Phages
T. Schilling, M. Hoppert, R. Hertel (Göttingen/DE)
- OTP362 *Providencia entomophila* sp. nov., a new bacterial pathogen of the olive fly, *Bactrocera oleae*
C. Schuster (Geisenheim/DE), I. Ksentini, H. Gharsallah, M. Sahnoun S. Hamli Amri, R. Gargouri, M. Ali Triki, M. Ksantini (Sfax/TN)
A. Leclerque (Geisenheim/DE)

POSTER SESSION 2 | TUESDAY, 19 MARCH

- OTP363 Isolation and molecular identification of *Erwinia amylovora* bacteria from Central Asia
C. Schuster (Geisenheim/DE), S. Bobushova (Bishkek/KG)
Z. Umiraliyeva (Almaty/KZ), M. Konurbaeva (Bishkek/KG)
A. A. Dzhajmurzina, B. Kopzhasarov, A. M. Uspanov
B. A. Duisembekov (Almaty/KZ), T. Doolotkeldieva (Bishkek/KG)
A. Leclerque (Geisenheim/DE)
- OTP364 Comparative genomics of *Clostridioides difficile* isolated from different geographic locations
T. Riedel, J. Wittmann, H. Junca, I. Schober, B. Bunk, C. Spröer
J. Meier-Kolthoff, M. Göker, J. Sikorski, M. Steglich (Braunschweig/DE)
O. Zimmermann, H. Liesegang, U. Groß, R. Daniel (Göttingen/DE), U. Nübel
J. Overmann (Braunschweig/DE)
- OTP365 Characterization of *Pseudomonas aeruginosa* genes of unknown function
N. Babic, K.-E. Jaeger, F. Kovacic (Jülich/DE)
- OTP366 Biocontrol agents against *Eutypa lata* – candidates and compounds
F. Schmidt (Kaiserslautern/DE), Y.-N. Shi (Frankfurt a. M./DE)
H. Laatsch (Göttingen/DE), O. Sterner (Lund/SE)
H. B. Bode (Frankfurt a. M./DE), E. Thines (Kaiserslautern, Mainz/DE)
A. Schöffler (Kaiserslautern/DE)
- OTP367 *Vibri*-Clone – a novel engineered strain for cloning in *Vibrio natriegens*
J. Hoff, B. Daniel, D. Stukenberg, M. Muratoglu, Fr. Müller, J. Jung
Ge. Fritz (Marburg/DE)
- OTP368 The role of *Myroides* mVOCs during infection
D. Hiller, S. Barthels, D. Jahn, M. Jahn (Braunschweig/DE)
- OTP369 Investigations of microbial contamination of cocoa beans
S. Busch, S. Loos-Theisen (Geisenheim/DE)
- OTP371 Improving the Accuracy and Reproducibility of Microbiome Measurements Across Labs
R. Kemp, S. Tang (Irvine, CA/US), J. Kappel (Freiburg i. Br./DE)
- OTP372 Optimization and evaluation of the qPCR-based pooling strategy DEP-pooling in dairy production
P.-J. Mester, A. K. Witte, C. Robben, E. Streit, S. Fister, D. Schoder
P. Rossmanith (Vienna/AT)

- OTP373 A novel method for sampling and long-term monitoring of microbes using stickers of plain paper
M. Bobal, A. K. Witte, P.-J. Mester, S. Fister, D. Schoder
P. Rossmanith (Vienna/AT)
- OTP374 Tracking the establishment of metabolic heterogeneity in single cell eukaryotic communities over time
S. Zilkenat, O. Zabaco (London/GB), M. Ralser (London/GB, Berlin/DE)
- OTP375 Predictability of Ionic Liquid's Virucidal Potential in Biological Test Systems
J. Sommer, S. Fister, T. Gundolf, B. Bromberger, P.-J. Mester
A. K. Witte (Vienna/AT), R. Kalb (Grambach/AT), D. Schoder
P. Rossmanith (Vienna/AT)
- OTP376 Evaluation of the detection efficiency of MRSA in manure
A. Belitz, S. P. Glaeser, P. Kämpfer (Gießen/DE)
- OTP377 The public health implications of the *enterobacteriaceae* associated with toilet door handles within University of Benin, Nigeria
J. M. Ogbonnaya, E. E. Imarhiagbe, B. I. Idemudia, F. Ekhaize (Benin/NG)
- OTP378 Bacteria associated with door handles and staircase handrails in the central administration buildings, University of Benin, Benin City, Nigeria
I. O. Osaretin, F. Ekhaize (Benin/NG)

Sensing and Signaling | SeSiP379–SeSiP390

- SeSiP379 A cyclic-di-GMP dependent lateral flagellar brake
A. Pecina, T. Leonhard, P. Klüber, K. Thormann (Gießen/DE)
- SeSiP380 *Escherichia coli* K-12 mutants with defective acetate production hint to a function of acetyl-P in controlling metabolic fluxes
K. Bettenbrock, A. Schütze, D. Benndorf (Magdeburg/DE)
- SeSiP381 The nucleotide second messenger cyclic di-AMP controls potassium homeostasis and cell wall remodeling in *Corynebacterium glutamicum*
S. Reich, T. Weiß, G. M. Seibold (Ulm/DE)
- SeSiP382 Positive and negative control of the phosphorylation state of the response regulator NreC of *S. carnosus*
R. Klein, A.-K. Kretzschmar, G. Unden (Mainz/DE)

POSTER SESSION 2 | TUESDAY, 19 MARCH

- SeSiP383 Phosphorylation and DNA-binding of the two component DcuS-DcuR complex
S. Gencheva, G. Unden (Mainz/DE)
- SeSiP384 α -helical axis dynamics in DcuS sensor kinase inter-domain signal transmission
M. Stopp, A. Strecker (Mainz/DE), W. Steinchen, G. Bange (Marburg/DE)
G. Unden (Mainz/DE)
- SeSiP385 Acclimation of *Synechocystis* 6803 to a day-night cycle using canonical clock proteins
N. Scheurer, C. Köbler, A. Wilde (Freiburg i. Br./DE)
- SeSiP386 Biochemical and functional characterization of the bacterial phytochrome PaBphP of *Pseudomonas aeruginosa*
C. Huber, J. Pielage, N. Frankenberg-Dinkel (Kaiserslautern/DE)
- SeSiP387 The diversity of PQS cleaving dioxygenases
S. Wullich, A. Arranz San Martin, S. Thierbach, S. Fetzner (Münster/DE)
- SeSiP388 Analysis of the sensor-phosphodiesterase NbdA of *Pseudomonas aeruginosa*
S. Zehner, K. Heieck, K. Gerbracht, M. Rüger
N. Frankenberg-Dinkel (Kaiserslautern/DE)
- SeSiP389 Identification of candidate genes associated with dimorphic switch and thermoregulation in *Zymoseptoria tritici* by genome-wide RNA-Seq time-course analysis
A. Yemelin (Kaiserslautern/DE), S. Jacob (Kaiserslautern, Mainz/DE)
L. Antelo (Mainz, Kaiserslautern/DE), K. Andresen (Mainz/DE)
J. Sema (Kaiserslautern/DE), L. Heck (Mainz/DE)
E. Thines (Kaiserslautern, Mainz/DE)
- SeSiP390 Fungicide resistance towards fludioxonil conferred by overexpression of the phosphatase gene MoPTP2 in *Magnaporthe oryzae*
S. Bohnert (Kaiserslautern/DE), L. Heck (Mainz/DE), C. Gruber
H. Neumann (Kaiserslautern/DE), U. Distler, S. Tenzer (Mainz/DE)
A. Yemelin (Kaiserslautern/DE), E. Thines (Kaiserslautern, Mainz/DE)
S. Jacob (Mainz/DE)

Synthetic Microbiology and Secondary Metabolism | SMP391–SMP429

- SMP391 Biosynthesis of Sphingofungins in *Aspergillus fumigatus*
J. Rautschek, A. Bissell, J. E. Kufs, D. J. Mattern, S. Hoefgen, Y. Huang
 A. A. Brakhage, V. Valiante (Jena/DE)
- SMP392 Antibacterial activities of endolichenic fungi associated with tropical species
 of *Parmotrema* and *Usnea*
J. A. Paguirigan, M. A. Alcantara, S. M. Castillo, P. L. Co, E. Dumo
 A. J. Espino, F. S. Flores, F. Lina, K. Pua
 T. E. dela Cruz (Sampaloc, Manila/PH)
- SMP393 Engineering of the filamentous fungus *Acremonium chrysogenum* for
 improved 7-aminocephalosporanic acid biosynthesis
X. Lin, T. Dahlmann, U. Kück (Bochum/DE)
- SMP394 Unraveling the enzymatic basis of pseudochelin biosynthesis
L. Winand (Dortmund/DE), J. Korp, A. Sester (Dortmund, Jena/DE)
 M. Nett (Dortmund/DE)
- SMP395 Synthesis of calcimycin and its analogs in *Streptomyces chartreusis*
K. Arend, J. Bandow (Bochum/DE)
- SMP396 Purification of polyether ionophores of *Streptomyces chartreusis*
L. Sagurna, C. Senges, J. Bandow (Bochum/DE)
- SMP397 (Opto)genetic control of microbial cell factories for an efficient biosynthesis
 of valuable secondary metabolites
F. Hilgers, F. Hogenkamp, D. Binder, A. Loeschcke, J. Pietruszka, K.-E. Jaeger
 T. Drepper (Jülich/DE)
- SMP398 Natural product and precursor production by effective TREX-mediated
 gene cluster expression in *Pseudomonas putida*
R. Weihmann, S. Kubicki, S. Thies, A. Domröse, H. U. C. Braß, A. S. Klein
 J. Pietruszka, T. Drepper, K.-E. Jaeger, A. Loeschcke (Jülich/DE)
- SMP399 Bacterial bodyguards? – The defensive role of termite-associated
 actinomycetes.
 J. Schwitalla, E. Seibel, R. Benndorf, Hu. Guo (Jena/DE)
 M. Poulsen (Copenhagen/DK), W. Z. de Beer (Pretoria/ZA)
 C. Beemelmans (Jena/DE)

POSTER SESSION 2 | TUESDAY, 19 MARCH

- SMP400 Discovery of natural products from soil metagenomes at the Schönbuch Forest
T. Negri, F. Höhn, H. Sales-Ortells, N. Ziemert (Tübingen/DE)
- SMP401 Biosynthesis and biological function of a new and biologically active deoxy-sugar from *Synechococcus elongatus*
J. Rapp, B. Klaus, R. Pascal, G. Stephanie, F. Karl (Tübingen/DE)
- SMP402 Identification and ecological role of secondary metabolites produced by *Termitomyces*- the fungal mutualist of fungus growing termites
N. Kreuzenbeck (Jena/DE), I. Burkhardt (Bonn/DE), E. Seibel (Jena/DE)
H. Hu, M. Poulsen (Copenhagen/DK), J. S. Dickschat (Bonn/DE)
C. Beemelmans (Jena/DE)
- SMP403 Characterization of secondary metabolite gene clusters from the human-pathogenic fungus *Aspergillus calidoustus*
J. E. Kufs, J. Lin, J. Rautschek, S. Hitzler, S. Hoefgen, V. Valiante (Jena/DE)
- SMP404 Biochemical and physiological characterization of the FAD-dependent monooxygenase HmqL from *Burkholderia thailandensis*
A. Mährlein, S. Ernst, N. H. Ritzmann, S. L. Drees, S. Fetzner (Münster/DE)
- SMP405 Introduction and characterization of ECF σ factors in the emerging model organism *Vibrio natriegens*
B. Daniel, P. Schoenberg, Ge. Fritz (Marburg/DE)
- SMP406 Investigation of the Δ^3, Δ^2 -enoyl-CoA isomerase PaaG of the phenylacetic acid catabolic pathway
M. Spieker, R. Saleem Batcha, R. Teufel (Freiburg i. Br./DE)
- SMP407 Formation of an Inorganic-Organic Polymer
J. Hildenbrand, D. Jendrosseck, S. Reinhardt (Stuttgart/DE)
- SMP408 Photocaged IPTG derivatives for light-controlled gene expression in *Rhodobacter capsulatus*
O. Klaus, A. Lappe, F. Hilgers, F. Hogenkamp, A. Loeschcke, J. Pietruszka
K.-E. Jaeger, T. Drepper (Jülich/DE)

- SMP409 The iGEM competition at the Center for Biotechnology, Bielefeld University: Insights of ten years iGEM Bielefeld
N.-C. Lübke, J. Droste, B. Pucker, C. Rückert, J. Kalinowski (Bielefeld/DE)
- SMP410 Studies on the formation of the indolopyrrole moiety during pyrroindomycin biosynthesis
S. Bernhardt, K.-H. van Pée (Dresden/DE)
- SMP411 Siderophore Biosynthesis in Esca-Associated Fungi
I. Büttel (Mainz/DE), L. Antelo (Kaiserslautern/DE), A.-L. Hiller
 K. Andresen (Mainz/DE), E. Thines (Kaiserslautern, Mainz/DE)
- SMP412 Investigation of natural product biosynthesis in entomopathogenic bacteria
M. Westphalen, S. Wenski, Y.-M. Shi, H. B. Bode (Frankfurt a. M./DE)
- SMP413 Identification of the biosynthetic gene cluster for antibiotic acyldepsipeptides in *Streptomyces hawaiiensis* NRRL 15010
D. Thomy (Tübingen/DE), E. Culp (Hamilton/CA), M. Adamek (Tübingen/DE)
 Y.-Q. Cheng (Fort Worth, TX/US), N. Ziemert (Tübingen/DE)
 G. D. Wright (Hamilton/CA), P. Sass, H. Brötz-Oesterhelt (Tübingen/DE)
- SMP414 Unexpected Bacterial Origin of the Antibiotic Icosalide: Two-Tailed Depsipeptide Assembly in Multifarious Burkholderia Symbiont
S. Niehs, B. Dose, K. Scherlach (Jena/DE), L. Flórez
 M. Kaltenpoth (Mainz/DE), C. Hertweck (Jena/DE)
- SMP415 Model-based pathway engineering towards optimized heterologous triterpene production in *Synechocystis* sp. PCC 6803
A. Germann, S. Triesch, M. Dietsch (Düsseldorf/DE), R. Steuer (Berlin/DE)
 I. M. Axmann (Düsseldorf/DE)
- SMP416 Lentinulin A and B: structure and bioactivity of new RiPPs from *Lentinula edodes* CBS 454.69
 J. Kühlborn, T. Opatz (Mainz/DE), E. Thines (Kaiserslautern, Mainz/DE)
K. Andresen (Mainz/DE)
- SMP417 Heterologous expression of NRPS-like coding genes in *Magnaporthe oryzae*
H. Neumann (Mainz/DE), L. Antelo, A. Schöffler (Kaiserslautern/DE)
 K. Andresen (Mainz/DE), E. Thines (Kaiserslautern, Mainz/DE)

POSTER SESSION 2 | TUESDAY, 19 MARCH

- SMP418 Actinobacteria are neglected alternative sources to plants and fungi for the discovery of complex sesqui and diterpenes
E. J. N. Helfrich (Boston, MA/US), G.-M. Lin (Cambridge, MA/US)
C. Moore (Basel/CH), C. A. Voigt (Cambridge, MA/US)
J. Clardy (Boston, MA/US)
- SMP419 The methoxylated, highly conjugated C₄₀ carotenoids, spirilloxanthin and anhydrorhodovibrin, can be separated using high performance liquid chromatography with safe and environmentally friendly solvents
C. Autenrieth, R. Ghosh (Stuttgart/DE)
- SMP421 Application of NanoBit for monitoring the interaction of signal transduction protein PII with PII-interacting protein X, *in vitro*
R. Rozbeh (Tübingen/DE), K. Forchhammer (Tübingen/DE)
- SMP422 Generation of a synthetic endosymbiont
N. T. Odermatt, P. D. Gerlinger, T. J. Erb (Marburg/DE)
- SMP423 A novel bacterial chassis system for the production of secondary metabolites
H. Kage (Dortmund/DE)
- SMP424 Discovery of novel coenzyme F₄₂₀ derivatives from *Paraburkholderia rhizoxinica*
D. Braga, I. Richter, G. Lackner (Jena/DE)
- SMP425 Establishing a synthetic photorespiratory bypass in *Synechococcus elongatus* PCC7942
P. Pfister, J. Zarzycki, T. J. Erb (Marburg/DE)
- SMP426 Exploiting termite nest microbiomes for antibiotic discovery by using an ultra-high throughput Microfluidics/FACS driven pipeline combined with a microtiter plate based cultivation strategy
M. Spohn, M. Oberpaul, M. Marner (Gießen/DE)
P. Hammann (Frankfurt a. M./DE), A. Vilcinskas, J. Glaeser (Gießen/DE)
- SMP427 New Tools for Targeted Cloning and Over Expression of Biosynthetic Gene Clusters
M. Liles, D. Mead, D. Johnson, J. MacDonald, P. Brumm
R. Stankey (Madison, WI/US)

- SMP428 Genetically encoded photosensitizers as a versatile tool to regulate bacterial processes by light
N. L. Bitzenhofer, Y. S. Ackermann, F. Hilgers, T. Gensch (Jülich/DE)
S. Nonell (Barcelona/ES), K.-E. Jaeger, T. Drepper (Jülich/DE)
- SMP429 Rapid purification and characterization of recombinant proteins and antibodies: Capturem high-capacity membranes
G. Jokhadze, C. Hoppmann, M. T. Vierra, B. Levitan, M. Li, T. Larson
A. A. Farmer (Mountain View, CA/US), M. Raman (Saint-Germain-en-Laye/FR)

Karrieresymposium – Studium, Promotion und dann? Jobperspektiven in den Biowissenschaften – Anregungen und Tipps

Dienstag, 19. März 2019, 12.45-14.15 Uhr, HS P10

12.45 Uhr: Dr. Alexandra Krämer, Boehringer Ingelheim
Als Mikrobiologin in der globalen Quality Governance

13.15 Uhr: Dr. Julia Rolnik, BKA Wiesbaden
Als Biologin im BKA – zwischen „CSI“ und „Stromberg“

13.45 Uhr: Dr. Maurice Telaar, Infors GmbH
Technischer Vertrieb – Ein Weg für Absolventen in den Biowissenschaften

Außerdem:

DFG-Antragsberatung

Montag, 18. März 2019, 15.00-18.00 Uhr in Raum HS P15

Dienstag, 19. März von 16.00-18.00 Uhr in Raum HS P13

Dr. Regina Nickel berät im Einzelgespräch zu den Förderprogrammen der Deutschen Forschungsgemeinschaft → **Anmeldung am Check-In**

GENERAL INFORMATION



Registration

Registration for the conference is required. Please register online at www.vaam-kongress.de or refer to the check-in desk on-site.



Conference Fees

Member – Regular ¹	320 EUR
Member – Student, Technical Assistant, Unemployed ^{1,2}	110 EUR
Member – Retiree ^{1, 2}	100 EUR
Non-member – Regular	390 EUR
Non-member – Student, Technical Assistant, Unemployed ²	135 EUR
Non-member – Retiree ²	140 EUR

Day Tickets

Member – Regular ¹	160 EUR
Member – Student, Technical Assistant, Unemployed ^{1,2}	80 EUR
Non-member – Regular	200 EUR
Non-member – Student, Technical Assistant, Unemployed ²	100 EUR

¹ Members of the VAAM, DGHM, GBM, DECHEMA

² Please provide proof of status on site, via e-mail to registration@conventus.de or via fax +49 3641 31 16-244 and quote VAAM 2019.

Social Programme (Welcome Reception and Mixer)	included
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Accompanying Person

Welcome Reception	15 EUR
Mixer	25 EUR

Registration Fees include

- Admission to all scientific sessions and access to our industrial exhibition
- Opening ceremony/Public lectures
- Conference documents (programme, digital abstract book, etc.)
- Beverages within the scope of the breaks given in the programme

The conference fee also includes the provision of snacks and drinks at the Welcome Reception as well as buffet and beverages at the social evening (Mixer).



Payment and confirmation of payment

An invoice or confirmation of registration will be sent to you via postal or electronic mail within 14 days. This invoice is a valid invoice which may be submitted to the local tax and revenue office. All fees are due upon receipt of invoice/registration confirmation. Payment transfers must include participant's name and invoice number. Payment is also accepted by credit card (Master-/Eurocard, American Express, VISA).

Should you transfer your invoice amount within 10 days of the start of the event, please present your transfer remittance slip on-site.



Accommodation

We have reserved a contingent of rooms at special rates in different categories. Please quote the special conference booking code "VAAM" when booking to benefit from the special conference rates. Further information on accommodation is provided at www.vaam-kongress.de. Conventus GmbH acts as an intermediary for hotel reservations and therefore assumes no liability for reservations. Changes and cancellations have to be addressed to the according hotels directly. The cancellation terms of the individual hotels apply.



General Terms and Conditions

You can find the general terms and conditions on our conference website www.vaam-kongress.de.



Parking

The location offers the following parking space:
Football stadium (200 m north from the main pedestrian entrance)



General Certificate of Attendance

General Certificates of attendance will first be made available on the last day of the conference at the check-in desk.



Name Badge

Please wear your name badge during all conference events, including networking activities.

Admission to scientific sessions and to the industrial exhibition is restricted to participants wearing their badge. Participants will receive their name badge at the check-in desk.



Check-in and Self Check-in

The check-in and self check-in desk are located on ground floor in Foyer B, Philosophicum.

GENERAL INFORMATION



Cloak Room

The coat and luggage room can be found in room P12, Foyer B, Philosophicum. The fee is 1 EUR per garment or luggage.



WIFI Access

WIFI is available throughout the whole conference area. The access data will be displayed on site.



Online Programme

For current detailed information regarding the scientific programme please scan the QR Code to get to the online programme. Compose your individual programme and review it at any time on your way.



Conference Language

The official conference language is English.



Publication of Abstracts

All abstracts will be published in the digital abstract book and are available online at www.vaam-kongress.de.



Poster Awards

From all poster presentations, the best 10 will be awarded. The awarding of the best posters will be on Wednesday, 20 March from 11:30–11:45 hrs in the main lecture hall RW1. Posters which are on the short list for the poster prize will find a notification on their poster board.



Catering

The catering stations are located in the industrial exhibition in Foyer A and B of the Philosophicum.

Water dispensers are distributed in the foyers. During the coffee breaks, coffee and tea are offered free of charge at the catering stations. During the Welcome Reception and Mixer, catering and drinks will be offered free of charge. Moreover, companies may provide food in their lunch symposia.



Passport to Prizes

Join our interactive quiz “Passport to Prizes”!

How? Pick up a questionnaire at the check-in and answer the questions – our exhibitors will be happy to help you. Exciting prizes are waiting for you!

Submission of a Presentation/Technical Information

The presentation should be prepared as PDF, MS Office PowerPoint for Windows or key for Macintosh DVD in format 4:3. A presentation notebook with a PDF reader and MS Office PowerPoint 2016 will be provided. The use of personal notebooks is possible upon agreement. However, it may interrupt the flow of the programme in the lecture hall. Please provide an adapter for VGA if necessary. To guarantee a smooth running programme please upload your presentation in due time – at least 2 hours before your presentation is due to start.

Presentation Upload

The media check-in for uploading your presentation is located in Foyer B of the Philosophicum (please follow the signposting). For submission, please use a USB flash drive, CD or DVD disc that is not protected by any software. Professional staff and equipment will be available for you to arrange and preview your presentation.

Time Allocation

Please prepare your presentation for the allotted amount of time (12 minutes talk + 3 minutes discussion). Chairs and moderators may interrupt should you overrun your time limit.

Display of Name and Countdown

Your name will be displayed in the middle upper part of your presentation. Please consider to leave space (ca. 1/10 height at the top of your presentation). A countdown will be displayed on the bottom right corner.

Poster Session

The poster presentations are taking place during the poster sessions on Monday from 14:15–17:00 hrs and on Tuesday from 15:45–18:00 hrs.

Please note that there will be a poster change from Monday to Tuesday.

Pins will be provided on your poster board. Please do not use any other type of pins than those provided. All poster boards will be labelled with a poster number. You can find your poster number in the programme book.

Poster Session 1 | Monday, 18 March | 14:15–17:00 hrs

All posters from session 1 have to be attached until 12:00 hrs on Monday, 18 March and have to be removed until 10:00 hrs on Tuesday, 19 March. Please note that your poster will not be forwarded.

Poster Session 2 | Tuesday, 19 March | 15:45–18:00 hrs

All posters from session 2 have to be attached until 12:00 hrs on Tuesday, 19 March and have to be removed until 12:00 hrs on Wednesday, 20 March at the latest. Please note that your poster will not be forwarded.

TYPES OF PRESENTATIONS AND SESSIONS

Hans-Günter-Schlegel Lecture

In honor and memory of Prof. Dr. Hans Günter Schlegel, nestor of microbial research and publisher of the first microbial textbook in German, the VAAM awards a renowned expert with a presentation.

Plenary Session

An expert presents his/her point of view on a certain topic within a plenary lecture.

Short Lecture

Similar to the plenary sessions, empirical works, theoretical and methodological findings and innovations, including the experts' point of view on a certain topic, will be presented. The selected presentations have been chosen from submitted abstracts and provide therefore a good platform for (young) scientists and researchers to provide their research.

Mini Symposia (VAAM Special Groups)

The minisymposia are organised by the special groups of the VAAM. Speakers have been invited and abstracts have been selected for presentation.

Poster Presentations

During our poster sessions, abstract authors gain the possibility to present their printed poster. Please note that there will be no guided poster presentations.

Lunch Symposia

In an industrial lunch symposium companies present interesting topics with selected speakers. Participants can expect attractive presentations and lunch bags may be sponsored by the hosting companies.

Events for Young Scientists

Various sessions for young scientists point out career opportunities and offer support. The Karrieresymposium will point out career opportunities, the DFG provides consulting service.

Special Groups

Yeasts
Environmental Microbiology
Biotransformation
Cyanobacteria
Identification and Systematics
Functional Genome Analysis
Microbial Pathogenicity
Microbial Cell Biology
Regulation and Signaltransduction in Prokaryotes
Symbiotic Interactions Quality Assurance and Diagnostics
Quality Assurance and Diagnostics

Oral/Poster ID

YV-FG
EMV-FG
BTV-FG
CAV-FG
ISV-FG
FGV-FG
MPV-FG
MCV-FG
RSV-FG
SIV-FG
QAV-FG

Abstract Topics

Anaerobic Metabolism and Respiration
Archaea
Bacterial Cell Biology
Biodegradation
Biotechnology
Biotic Interactions
Chemical Communication
Environmental Microbiology
Fungal Physiology and Differentiation
Gene Regulation
Large Protein Complexes
Membranes and Transport
Microbial Ecology
Microbial Stress Response
Open Topics
Sensing and Signaling
Synthetic Microbiology and Secondary Metabolomics

AMV; ARV; AMP
AR-FPV; ARP
BCV; BCP; BC-LPV
BDV; BDP
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SMV; SMP

SOCIAL PROGRAMME

Sunday, 17 March | Welcome Reception

The organisers welcome all participants of the conference in the industrial exhibition area. Meet colleagues and other participants by fresh drinks and snacks.

Time	19:00
Place	Foyers Philosophicum Industrial Exhibition



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Tuesday, 19 March | Mixer

We invite you to join a memorable evening at the Mixer. Enjoy a familiar evening with colleagues and friends, have casual conversations and get to know each other even better: socialise and extend your network! Decide for yourself if you want to enjoy your dinner seated or at a bar table. The band AnnRed will accompany the evening and maybe even encourage you to dance.

Time	20:00
Place	Halle 45 Hauptstraße 17–19 55120 Mainz
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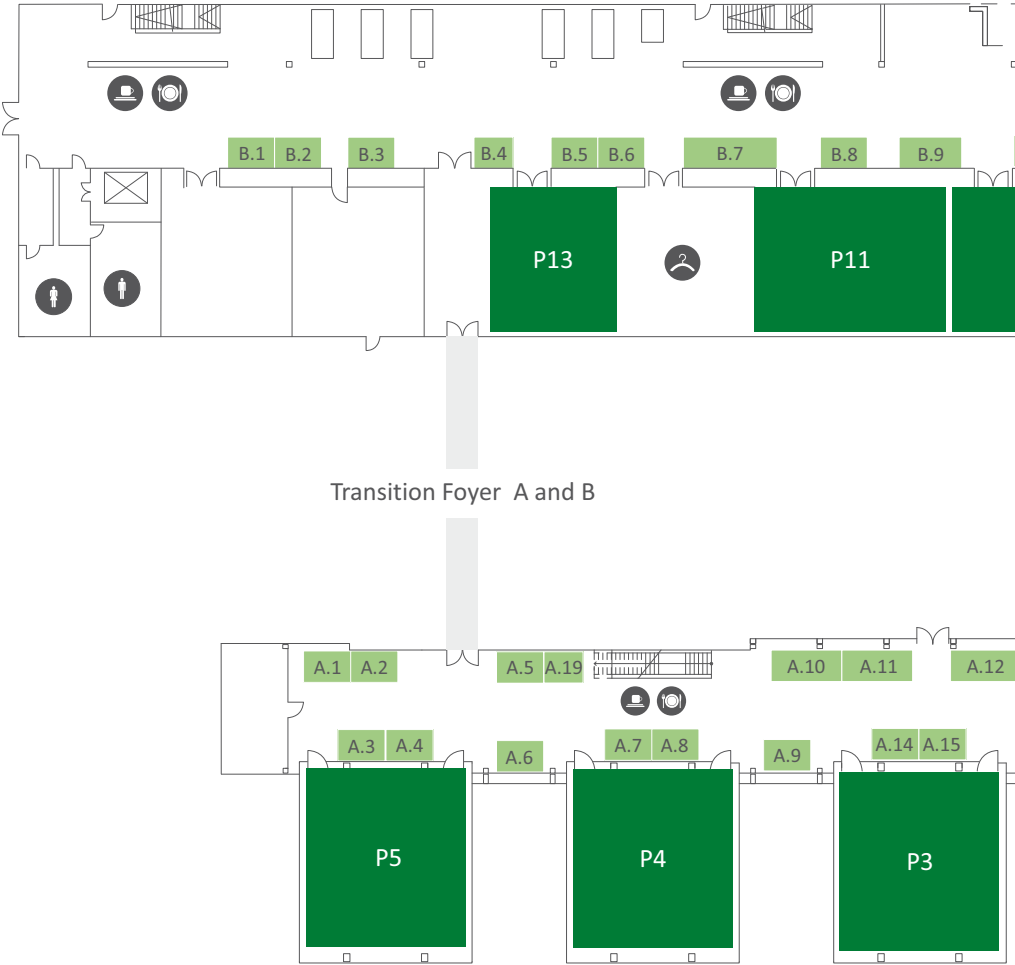
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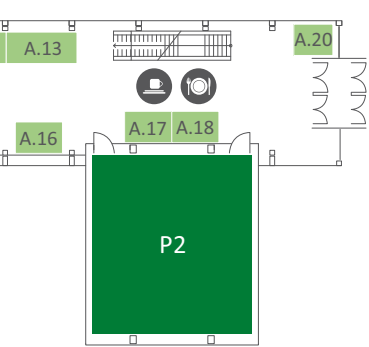
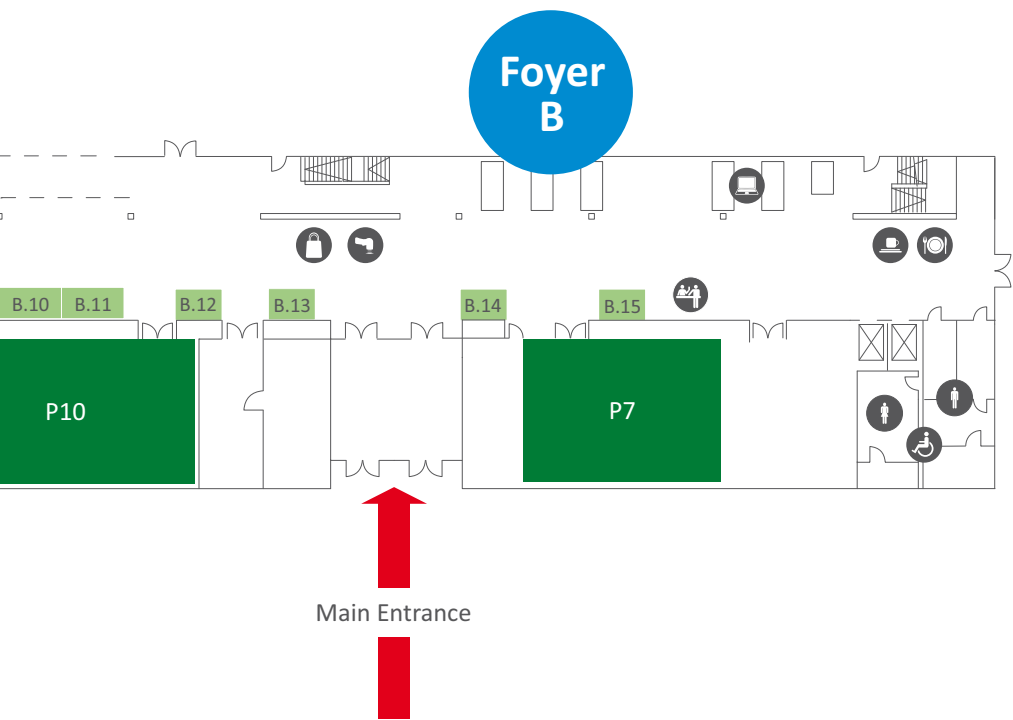
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INVITED PLENARY SPEAKERS

Albers, Sonja-Verena

University of Freiburg, Institute for Biology II – Microbiology, Freiburg i. Br./DE

Bange, Gert

LOEWE-Zentrum für Synthetische Mikrobiologie, Molecular Plasticity of Microbial Adaptation, Marburg/DE

Fischer, Reinhard

Karlsruhe Institute of Technology – KIT, Institute for Applied Biosciences, Karlsruhe/DE

Gründling, Angelika

Imperial College London, Section of Microbiology & MRC, Centre for Molecular Bacteriology and Infection, London/GB

Jenal, Urs

Universität Basel, Infection Biology, Basel/CH

Kahmann, Regine

Max-Planck-Institute for Terrestrial Microbiology, Department of Organismic Interactions, Marburg/DE

Knowles, Timothy

University of Birmingham, School of Biosciences, Birmingham/GB

Montgomery, Beronda

Michigan State University, DOE Plant Research Laboratory, East Lansing, MA/US

Müller, Volker

Goethe University Frankfurt, Molecular Microbiology & Bioenergetics, Frankfurt a. M./DE

Nielsen, Lars Peter

Aarhus University, Center for Electromicrobiology, Aarhus/DK

Sauer, Uwe

ETH Zurich, Institute für Molekulare Systembiologie, Zürich/CH

Tabor, Jeffrey J.

Rice University, Bioengineering, Houston, TX/US

Winter, Sebastian

UT Southwestern Medical Center, Department of Microbiology, Dallas, TX/US

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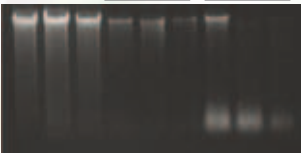
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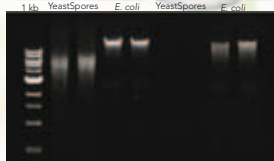
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